



ANALYTICAL SUMMARY REPORT

June 23, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11060064

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn

Energy Laboratories Inc Helena MT received the following 3 samples for Tetra Tech Inc on 6/3/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11060064-001	Sump-3A	06/02/11 13:45	06/03/11	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Total Manual Distillation Thiocyanate Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Mercury, Total Recoverable Fluoride Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite pH Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Digestion, Mercury by CVAA Digestion, Total P Water Preparation for TDS Phosphorus, Total Solids, Total Dissolved
H11060064-002	Sump-1	06/02/11 14:25	06/03/11	Aqueous	Same As Above
H11060064-003	Dup-2	06/02/11 6:00	06/03/11	Aqueous	Same As Above

This report was prepared by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:


Inorganic Supervisor

Digitally signed by
Amanda B. Blackburn
Date: 2011.06.29 10:27:19 -06:00



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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 866-680-2218

CLIENT: Tetra Tech Inc
Project: Beal Mtn
Sample Delivery Group: H11060064

Report Date: 06/23/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Sample 003 for Total Cyanide was re-analyzed past the recommended hold time. No Charge for analysis. Wj 6/23/11



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060064-001
Client Sample ID Sump-3A

Report Date: 06/23/11
Collection Date: 06/02/11 13:45
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	8.0	s.u.		0.1		A4500-H B	06/03/11 17:09 / zeg
Conductivity	4170	umhos/cm		1		A2510 B	06/03/11 13:50 / cmm
Solids, Total Dissolved TDS @ 180 C	3370	mg/L		10		A2540 C	06/03/11 15:12 / cmm
INORGANICS							
Cyanide, Total	0.96	mg/L	D	0.01		Kelada mod	06/13/11 17:28 / eli-b
Thiocyanate as N	0.075	mg/L		0.048		A4500-CN M	06/17/11 10:00 / eli-b1
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	06/03/11 17:09 / zeg
Chloride	170	mg/L	D	5		E300.0	06/06/11 16:43 / zeg
Sulfate	1700	mg/L	D	20		E300.0	06/06/11 16:43 / zeg
Cyanide, Weak Acid Dissociable	0.076	mg/L		0.005		D2036C	06/14/11 13:58 / eli-b
Thiocyanate	0.31	mg/L		0.20		A4500-CN M	06/17/11 10:00 / eli-b1
Fluoride	0.5	mg/L		0.1	4	A4500-F C	06/07/11 12:19 / zeg
NUTRIENTS							
Nitrogen, Ammonia as N	10.9	mg/L	D	0.5		E350.1	06/07/11 16:41 / reh
Nitrogen, Nitrate+Nitrite as N	88.7	mg/L	D	0.5		E353.2	06/06/11 13:40 / reh
Nitrogen, Nitrite as N	6.2	mg/L	D	0.2		E353.2	06/03/11 14:24 / reh
Phosphorus, Total as P	0.14	mg/L		0.01		E365.1	06/06/11 15:45 / reh
METALS, DISSOLVED							
Calcium	300	mg/L		1		E200.7	06/06/11 14:37 / stp
Magnesium	17	mg/L		1		E200.7	06/06/11 14:37 / stp
Potassium	16	mg/L		1		E200.7	06/06/11 14:37 / stp
Sodium	744	mg/L		1		E200.7	06/06/11 14:37 / stp
METALS, TOTAL RECOVERABLE							
Arsenic	0.201	mg/L		0.005		E200.8	06/07/11 13:54 / dck
Barium	0.021	mg/L		0.005		E200.8	06/07/11 13:54 / dck
Cadmium	0.00040	mg/L		0.00008		E200.8	06/07/11 13:54 / dck
Copper	0.03	mg/L		0.01		E200.8	06/07/11 13:54 / dck
Iron	1.12	mg/L		0.03		E200.8	06/07/11 13:54 / dck
Lead	ND	mg/L		0.002		E200.8	06/07/11 13:54 / dck
Manganese	0.65	mg/L		0.01		E200.8	06/07/11 13:54 / dck
Mercury	ND	mg/L		0.0001	0.0001	E245.1	06/10/11 15:29 / sbk
Selenium	0.218	mg/L		0.005		E200.8	06/07/11 13:54 / dck
Silicon	8.5	mg/L		0.1		E200.8	06/07/11 13:54 / dck
Silver	ND	mg/L		0.0005		E200.8	06/07/11 13:54 / dck
Strontium	4.0	mg/L		0.1		E200.8	06/07/11 13:54 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060064-002
Client Sample ID Sump-1

Report Date: 06/23/11
Collection Date: 06/02/11 14:25
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.0	s.u.		0.1		A4500-H B	06/03/11 17:23 / zeg
Conductivity	3150	umhos/cm		1		A2510 B	06/03/11 13:52 / cmm
Solids, Total Dissolved TDS @ 180 C	2730	mg/L		10		A2540 C	06/03/11 15:12 / cmm
INORGANICS							
Cyanide, Total	0.054	mg/L		0.005		Kelada mod	06/13/11 17:30 / eli-b
Thiocyanate as N	ND	mg/L		0.048		A4500-CN M	06/17/11 10:00 / eli-b1
Alkalinity, Total as CaCO3	25	mg/L		4		A2320 B	06/03/11 17:23 / zeg
Chloride	58	mg/L	D	2		E300.0	06/06/11 16:55 / zeg
Sulfate	1700	mg/L	D	10		E300.0	06/06/11 16:55 / zeg
Cyanide, Weak Acid Dissociable	0.019	mg/L		0.005		D2036C	06/14/11 14:00 / eli-b
Thiocyanate	ND	mg/L		0.20		A4500-CN M	06/17/11 10:00 / eli-b1
Fluoride	0.2	mg/L		0.1	4	A4500-F C	06/07/11 12:22 / zeg
NUTRIENTS							
Nitrogen, Ammonia as N	6.4	mg/L	D	0.2		E350.1	06/07/11 16:36 / reh
Nitrogen, Nitrate+Nitrite as N	3.12	mg/L		0.05		E353.2	06/06/11 13:43 / reh
Nitrogen, Nitrite as N	0.37	mg/L		0.05		E353.2	06/03/11 14:25 / reh
Phosphorus, Total as P	ND	mg/L		0.01		E365.1	06/06/11 15:46 / reh
METALS, DISSOLVED							
Calcium	337	mg/L		1		E200.7	06/06/11 14:46 / stp
Magnesium	40	mg/L		1		E200.7	06/06/11 14:46 / stp
Potassium	12	mg/L		1		E200.7	06/06/11 14:46 / stp
Sodium	428	mg/L		1		E200.7	06/06/11 14:46 / stp
METALS, TOTAL RECOVERABLE							
Arsenic	ND	mg/L		0.005		E200.8	06/07/11 14:20 / dck
Barium	0.011	mg/L		0.005		E200.8	06/07/11 14:20 / dck
Cadmium	0.00583	mg/L		0.00008		E200.8	06/07/11 14:20 / dck
Copper	ND	mg/L		0.01		E200.8	06/07/11 14:20 / dck
Iron	12.2	mg/L		0.03		E200.8	06/07/11 14:20 / dck
Lead	ND	mg/L		0.002		E200.8	06/07/11 14:20 / dck
Manganese	2.16	mg/L		0.01		E200.8	06/07/11 14:20 / dck
Mercury	ND	mg/L		0.0001	0.0001	E245.1	06/10/11 15:32 / sbk
Selenium	0.012	mg/L		0.005		E200.8	06/07/11 14:20 / dck
Silicon	0.7	mg/L		0.1		E200.8	06/07/11 14:20 / dck
Silver	ND	mg/L		0.0005		E200.8	06/07/11 14:20 / dck
Strontium	2.0	mg/L		0.1		E200.8	06/07/11 14:20 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060064-003
Client Sample ID Dup-2

Report Date: 06/23/11
Collection Date: 06/02/11 06:00
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	06/03/11 17:30 / zeg
Conductivity	3000	umhos/cm		1		A2510 B	06/03/11 13:53 / cmm
Solids, Total Dissolved TDS @ 180 C	2640	mg/L		10		A2540 C	06/03/11 15:13 / cmm
INORGANICS							
Cyanide, Total	0.148	mg/L	H	0.005		Kelada mod	06/22/11 13:18 / eli-b1
Thiocyanate as N	ND	mg/L		0.048		A4500-CN M	06/17/11 10:00 / eli-b1
Alkalinity, Total as CaCO3	34	mg/L		4		A2320 B	06/03/11 17:30 / zeg
Chloride	61	mg/L	D	2		E300.0	06/06/11 17:07 / zeg
Sulfate	1700	mg/L	D	10		E300.0	06/06/11 17:07 / zeg
Cyanide, Weak Acid Dissociable	0.075	mg/L		0.005		D2036C	06/15/11 16:23 / eli-b
Thiocyanate	ND	mg/L		0.20		A4500-CN M	06/17/11 10:00 / eli-b1
Fluoride	0.2	mg/L		0.1	4	A4500-F C	06/07/11 12:28 / zeg
NUTRIENTS							
Nitrogen, Ammonia as N	7.0	mg/L	D	0.2		E350.1	06/07/11 16:38 / reh
Nitrogen, Nitrate+Nitrite as N	2.80	mg/L		0.05		E353.2	06/06/11 13:44 / reh
Nitrogen, Nitrite as N	0.44	mg/L		0.05		E353.2	06/03/11 14:29 / reh
Phosphorus, Total as P	ND	mg/L		0.01		E365.1	06/10/11 09:44 / reh
METALS, DISSOLVED							
Calcium	321	mg/L		1		E200.7	06/06/11 14:50 / stp
Magnesium	34	mg/L		1		E200.7	06/06/11 14:50 / stp
Potassium	12	mg/L		1		E200.7	06/06/11 14:50 / stp
Sodium	401	mg/L		1		E200.7	06/06/11 14:50 / stp
METALS, TOTAL RECOVERABLE							
Arsenic	ND	mg/L		0.005		E200.8	06/07/11 14:28 / dck
Barium	0.012	mg/L		0.005		E200.8	06/07/11 14:28 / dck
Cadmium	0.00227	mg/L		0.00008		E200.8	06/07/11 14:28 / dck
Copper	0.02	mg/L		0.01		E200.8	06/07/11 14:28 / dck
Iron	12.8	mg/L		0.03		E200.8	06/07/11 14:28 / dck
Lead	ND	mg/L		0.002		E200.8	06/07/11 14:28 / dck
Manganese	1.48	mg/L		0.01		E200.8	06/07/11 14:28 / dck
Mercury	ND	mg/L		0.0001	0.0001	E245.1	06/10/11 15:34 / sbk
Selenium	0.015	mg/L		0.005		E200.8	06/07/11 14:28 / dck
Silicon	1.0	mg/L		0.1		E200.8	06/07/11 14:28 / dck
Silver	ND	mg/L		0.0005		E200.8	06/07/11 14:28 / dck
Strontium	2.7	mg/L		0.1		E200.8	06/07/11 14:28 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										
Batch: R71552										
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110603C			06/03/11 16:54
Alkalinity, Total as CaCO ₃	1	mg/L	0.6							
Sample ID: LCS-06022011		Laboratory Control Sample					Run: MAN-TECH_110603C			06/03/11 17:02
Alkalinity, Total as CaCO ₃	610	mg/L	4.0	101	90	110				
Sample ID: H11060064-001ADUP		Sample Duplicate					Run: MAN-TECH_110603C			06/03/11 17:17
Alkalinity, Total as CaCO ₃	210	mg/L	4.0					0.1	20	
Sample ID: H11060067-002AMS		Sample Matrix Spike					Run: MAN-TECH_110603C			06/03/11 17:49
Alkalinity, Total as CaCO ₃	670	mg/L	4.0	100	90	110				
Sample ID: H11060067-009ADUP		Sample Duplicate					Run: MAN-TECH_110603C			06/03/11 18:44
Alkalinity, Total as CaCO ₃	65	mg/L	4.0					1.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B										
Analytical Run: COND_110603A										
Sample ID: ICV1_110603A	Initial Calibration Verification Standard									
Conductivity		939	umhos/cm	1.0	94	90	110			06/03/11 13:49
Method: A2510 B										
Batch: 110603A-COND-PROBE-W										
Sample ID: H11060064-001ADUP	Sample Duplicate									
Conductivity		4160	umhos/cm	1.0				0.2	10	Run: COND_110603A 06/03/11 13:51
Sample ID: H11060067-009ADUP	Sample Duplicate									
Conductivity		218	umhos/cm	1.0				0.0	10	Run: COND_110603A 06/03/11 14:14

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 06/29/11

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: 12439
Sample ID: MB-12439		Method Blank								
Solids, Total Dissolved TDS @ 180 C		3	mg/L	1.0				Run: ACCU-124 (14410200)_110603		06/03/11 15:11
Sample ID: LCS-12439		Laboratory Control Sample								
Solids, Total Dissolved TDS @ 180 C		1980	mg/L	10	99	90	110	Run: ACCU-124 (14410200)_110603		06/03/11 15:11
Sample ID: H11060064-001ADUP		Sample Duplicate								
Solids, Total Dissolved TDS @ 180 C		3450	mg/L	10				Run: ACCU-124 (14410200)_110603		06/06/11 16:46
								2.3	5	
Sample ID: H11060064-002AMS		Sample Matrix Spike								
Solids, Total Dissolved TDS @ 180 C		4680	mg/L	10	97	80	120	Run: ACCU-124 (14410200)_110603		06/03/11 15:13

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-CN M										Analytical Run: SUB-B167405
Sample ID: ICV-R167405										06/17/11 10:00
Thiocyanate	2	Initial Calibration Verification Standard								
		4.9	mg/L	0.20	99	90	110			
Thiocyanate as N		1.2	mg/L	0.048	99	90	110			
Method: A4500-CN M										Batch: B_R167405
Sample ID: MB-R167405										06/17/11 10:00
Thiocyanate	2	Method Blank								
		ND	mg/L	0.04						
Thiocyanate as N		ND	mg/L	0.01						
Sample ID: B11060107-001FMSD										06/17/11 10:00
Thiocyanate	2	Sample Matrix Spike Duplicate								
		5.1	mg/L	0.20	101	80	120	2.7	10	
Thiocyanate as N		1.2	mg/L	0.048	101	80	120	2.7	10	
Sample ID: B11060107-001FMS										06/17/11 10:00
Thiocyanate	2	Sample Matrix Spike								
		5.2	mg/L	0.20	104	80	120			
Thiocyanate as N		1.3	mg/L	0.048	104	80	120			

Qualifiers:

RL - Analyte reporting limit.

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C Analytical Run: PH_110607A										
Sample ID: ICV1_110607A	Initial Calibration Verification Standard									
Fluoride		0.711	mg/L	0.10	95	90	110			06/07/11 12:15
Method: A4500-F C Batch: 110607A-F-ISE-W										
Sample ID: MBLK1_110607A	Method Blank									
Fluoride		ND	mg/L	0.02						Run: PH_110607A 06/07/11 12:15
Sample ID: LFB2_110607A	Laboratory Fortified Blank									
Fluoride		0.469	mg/L	0.10	94	90	110			Run: PH_110607A 06/07/11 12:17
Sample ID: H11060064-002AMS	Sample Matrix Spike									
Fluoride		0.676	mg/L	0.10	94	85	115			Run: PH_110607A 06/07/11 12:25
Sample ID: H11060064-002AMSD	Sample Matrix Spike Duplicate									
Fluoride		0.670	mg/L	0.10	93	85	115	0.9	20	Run: PH_110607A 06/07/11 12:26

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B										Analytical Run: MAN-TECH_110603C
Sample ID: CCV1-1905		Continuing Calibration Verification Standard								06/03/11 16:36
pH		3.93	s.u.	0.10	98	98	102			
Sample ID: CCV-1943		Continuing Calibration Verification Standard								06/03/11 16:39
pH		6.95	s.u.	0.10	99	98	102			
Sample ID: ICV		Initial Calibration Verification Standard								06/03/11 16:45
pH		6.96	s.u.	0.10	99	99	101			
Method: A4500-H B										Batch: R71552
Sample ID: CCV3-1664		Continuing Calibration Verification Standard				Run: MAN-TECH_110603C				06/03/11 16:42
pH		9.96	s.u.	0.10	100	98	110			
Sample ID: H11060064-001ADUP		Sample Duplicate				Run: MAN-TECH_110603C				06/03/11 17:17
pH		7.97	s.u.	0.10				0.3	3	
Sample ID: H11060067-009ADUP		Sample Duplicate				Run: MAN-TECH_110603C				06/03/11 18:44
pH		8.12	s.u.	0.10						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C									Batch: B_54656	
Sample ID: B11060447-002EMSD	Sample Matrix Spike Duplicate				Run: SUB-B167173				06/14/11 14:50	
Cyanide, Weak Acid Dissociable	0.0960	mg/L	0.0050	92	80	120	0.9	10		
Sample ID: LCS-54656	Laboratory Control Sample				Run: SUB-B167173				06/14/11 13:49	
Cyanide, Weak Acid Dissociable	0.0967	mg/L	0.0050	97	90	110				
Sample ID: MB-54656	Method Blank				Run: SUB-B167173				06/14/11 13:50	
Cyanide, Weak Acid Dissociable	ND	mg/L	0.002							
Sample ID: B11060447-002EMS	Sample Matrix Spike				Run: SUB-B167173				06/14/11 14:48	
Cyanide, Weak Acid Dissociable	0.0952	mg/L	0.0050	91	80	120				
Method: D2036C									Batch: B_54705	
Sample ID: LCS-54705	Laboratory Control Sample				Run: SUB-B167288				06/15/11 16:17	
Cyanide, Weak Acid Dissociable	0.0917	mg/L	0.0050	92	90	110				
Sample ID: MB-54705	Method Blank				Run: SUB-B167288				06/15/11 16:21	
Cyanide, Weak Acid Dissociable	ND	mg/L	0.002							
Sample ID: H11060064-003G	Sample Matrix Spike				Run: SUB-B167288				06/15/11 16:24	
Cyanide, Weak Acid Dissociable	0.172	mg/L	0.0050	98	80	120				
Sample ID: H11060064-003G	Sample Matrix Spike Duplicate				Run: SUB-B167288				06/15/11 16:26	
Cyanide, Weak Acid Dissociable	0.158	mg/L	0.0050	84	80	120	8.7	10		

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Analytical Run: ICP1-HE_110606A
Sample ID: ICV	4	Initial Calibration Verification Standard								06/06/11 13:36
Calcium		38.9	mg/L	1.0	97	95	105			
Magnesium		40.4	mg/L	1.0	101	95	105			
Potassium		40.1	mg/L	1.4	100	95	105			
Sodium		38.8	mg/L	1.0	97	95	105			
Sample ID: CCV-1	4	Continuing Calibration Verification Standard								06/06/11 13:45
Calcium		25.4	mg/L	1.0	102	95	105			
Magnesium		25.2	mg/L	1.0	101	95	105			
Potassium		26.1	mg/L	1.4	105	95	105			
Sodium		25.4	mg/L	1.0	102	95	105			
Sample ID: ICSA	4	Interference Check Sample A								06/06/11 14:05
Calcium		493	mg/L	1.0	99	80	120			
Magnesium		521	mg/L	1.0	104	80	120			
Potassium		0.00330	mg/L	1.0		0	0			
Sodium		0.0142	mg/L	1.0		0	0			
Sample ID: ICSAB	4	Interference Check Sample AB								06/06/11 14:09
Calcium		516	mg/L	1.0	103	80	120			
Magnesium		543	mg/L	1.0	109	80	120			
Potassium		22.3	mg/L	1.4	111	80	120			
Sodium		21.0	mg/L	1.0	105	80	120			
Sample ID: CCV	4	Continuing Calibration Verification Standard								06/06/11 14:13
Calcium		26.6	mg/L	1.0	107	90	110			
Magnesium		26.5	mg/L	1.0	106	90	110			
Potassium		26.0	mg/L	1.4	104	90	110			
Sodium		25.0	mg/L	1.0	100	90	110			
Method: E200.7										Batch: 12432
Sample ID: MB-12432	4	Method Blank								Run: ICP1-HE_110606A 06/06/11 14:34
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.02						
Potassium		0.4	mg/L	0.04						
Sodium		ND	mg/L	0.1						
Sample ID: H11060064-001CMS2	4	Sample Matrix Spike								Run: ICP1-HE_110606A 06/06/11 14:40
Calcium		320	mg/L	1.0		70	130			A
Magnesium		37.2	mg/L	1.0	99	70	130			
Potassium		35.5	mg/L	1.0	99	70	130			
Sodium		736	mg/L	1.0		70	130			A
Sample ID: H11060064-001CMSD2	4	Sample Matrix Spike Duplicate								Run: ICP1-HE_110606A 06/06/11 14:43
Calcium		320	mg/L	1.0		70	130	0.1	20	A
Magnesium		35.7	mg/L	1.0	91	70	130	4.0	20	
Potassium		35.7	mg/L	1.0	101	70	130	0.7	20	

Qualifiers:

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ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: 12432
Sample ID: H11060064-001CMSD2	4	Sample Matrix Spike Duplicate				Run: ICP1-HE_110606A				06/06/11 14:43
Sodium		767	mg/L	1.0		70	130	4.2	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8						Analytical Run: ICPMS204-B_110607A				
Sample ID: ICV STD		11 Initial Calibration Verification Standard								06/07/11 10:26
Arsenic		0.0502	mg/L	0.0050	100	90	110			
Barium		0.0496	mg/L	0.10	99	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Copper		0.0513	mg/L	0.010	103	90	110			
Iron		0.262	mg/L	0.030	105	90	110			
Lead		0.0506	mg/L	0.010	101	90	110			
Manganese		0.251	mg/L	0.010	100	90	110			
Selenium		0.0509	mg/L	0.0050	102	90	110			
Silicon		0.491	mg/L	0.10	98	90	110			
Silver		0.0255	mg/L	0.0050	102	90	110			
Strontium		0.0489	mg/L	0.10	98	90	110			
Sample ID: ICSA		11 Interference Check Sample A								06/07/11 10:30
Arsenic		0.000156	mg/L	0.0050						
Barium		0.000190	mg/L	0.10						
Cadmium		0.000673	mg/L	0.0010						
Copper		0.000591	mg/L	0.010						
Iron		106	mg/L	0.030	106	70	130			
Lead		7.60E-05	mg/L	0.010						
Manganese		0.00215	mg/L	0.010						
Selenium		0.000220	mg/L	0.0050						
Silicon		0.00510	mg/L	0.10		0	0			
Silver		0.000286	mg/L	0.0050						
Strontium		0.00588	mg/L	0.10						
Sample ID: ICSAB		11 Interference Check Sample AB								06/07/11 10:35
Arsenic		0.0114	mg/L	0.0050	114	70	130			
Barium		0.000218	mg/L	0.10		0	0			
Cadmium		0.0113	mg/L	0.0010	113	70	130			
Copper		0.0216	mg/L	0.010	108	70	130			
Iron		109	mg/L	0.030	109	70	130			
Lead		6.70E-05	mg/L	0.010		0	0			
Manganese		0.0239	mg/L	0.010	119	70	130			
Selenium		0.0112	mg/L	0.0050	112	70	130			
Silicon		0.00472	mg/L	0.10		0	0			
Silver		0.0211	mg/L	0.0050	106	70	130			
Strontium		0.00586	mg/L	0.10		0	0			
Sample ID: ICV STD		11 Initial Calibration Verification Standard								06/07/11 20:22
Arsenic		0.0502	mg/L	0.0050	100	90	110			
Barium		0.0510	mg/L	0.10	102	90	110			
Cadmium		0.0265	mg/L	0.0010	106	90	110			
Copper		0.0510	mg/L	0.010	102	90	110			
Iron		0.260	mg/L	0.030	104	90	110			
Lead		0.0518	mg/L	0.010	104	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8		Analytical Run: ICPMS204-B_110607A								
Sample ID: ICV STD	11	Initial Calibration Verification Standard								06/07/11 20:22
Manganese		0.247	mg/L	0.010	99	90	110			
Selenium		0.0498	mg/L	0.0050	100	90	110			
Silicon		0.477	mg/L	0.10	95	90	110			
Silver		0.0258	mg/L	0.0050	103	90	110			
Strontium		0.0486	mg/L	0.10	97	90	110			
Sample ID: ICSA	11	Interference Check Sample A								06/07/11 20:27
Arsenic		0.000212	mg/L	0.0050						
Barium		0.000196	mg/L	0.10						
Cadmium		0.000663	mg/L	0.0010						
Copper		0.000612	mg/L	0.010						
Iron		103	mg/L	0.030	103	70	130			
Lead		9.50E-05	mg/L	0.010						
Manganese		0.00212	mg/L	0.010						
Selenium		0.000257	mg/L	0.0050						
Silicon		0.00570	mg/L	0.10		0	0			
Silver		0.000226	mg/L	0.0050						
Strontium		0.00572	mg/L	0.10						
Sample ID: ICSAB	11	Interference Check Sample AB								06/07/11 20:31
Arsenic		0.0111	mg/L	0.0050	111	70	130			
Barium		0.000179	mg/L	0.10		0	0			
Cadmium		0.0112	mg/L	0.0010	112	70	130			
Copper		0.0214	mg/L	0.010	107	70	130			
Iron		102	mg/L	0.030	102	70	130			
Lead		6.60E-05	mg/L	0.010		0	0			
Manganese		0.0233	mg/L	0.010	117	70	130			
Selenium		0.0105	mg/L	0.0050	105	70	130			
Silicon		0.00438	mg/L	0.10		0	0			
Silver		0.0209	mg/L	0.0050	105	70	130			
Strontium		0.00582	mg/L	0.10		0	0			
Sample ID: ICSA	11	Interference Check Sample A								06/08/11 13:15
Arsenic		0.000126	mg/L	0.0050						
Barium		0.000167	mg/L	0.10						
Cadmium		0.000688	mg/L	0.0010						
Copper		0.000462	mg/L	0.010						
Iron		107	mg/L	0.030	107	70	130			
Lead		7.20E-05	mg/L	0.010						
Manganese		0.00209	mg/L	0.010						
Selenium		6.60E-05	mg/L	0.0050						
Silicon		0.00498	mg/L	0.10		0	0			
Silver		3.00E-05	mg/L	0.0050						
Strontium		0.00600	mg/L	0.10						

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8 Analytical Run: ICPMS204-B_110607A										
Sample ID: ICSAB 11 Interference Check Sample AB 06/08/11 13:19										
Arsenic		0.0118	mg/L	0.0050	118	70	130			
Barium		0.000171	mg/L	0.10		0	0			
Cadmium		0.0115	mg/L	0.0010	115	70	130			
Copper		0.0219	mg/L	0.010	109	70	130			
Iron		111	mg/L	0.030	111	70	130			
Lead		6.90E-05	mg/L	0.010		0	0			
Manganese		0.0237	mg/L	0.010	119	70	130			
Selenium		0.0116	mg/L	0.0050	116	70	130			
Silicon		0.00525	mg/L	0.10		0	0			
Silver		0.0207	mg/L	0.0050	103	70	130			
Strontium		0.00604	mg/L	0.10		0	0			
Method: E200.8 Batch: 12447										
Sample ID: MB-12447 11 Method Blank Run: ICPMS204-B_110607A 06/07/11 13:19										
Arsenic		7E-05	mg/L	5E-05						
Barium		ND	mg/L	9E-05						
Cadmium		ND	mg/L	2E-05						
Copper		ND	mg/L	0.0004						
Iron		0.001	mg/L	0.0006						
Lead		ND	mg/L	2E-05						
Manganese		0.0002	mg/L	6E-05						
Selenium		ND	mg/L	0.0002						
Silicon		0.002	mg/L	0.0008						
Silver		ND	mg/L	6E-05						
Strontium		8E-05	mg/L	4E-05						
Sample ID: LCS-12447 11 Laboratory Control Sample Run: ICPMS204-B_110607A 06/07/11 13:23										
Arsenic		0.511	mg/L	0.0050	102	85	115			
Barium		0.510	mg/L	0.10	102	85	115			
Cadmium		0.257	mg/L	0.0010	103	85	115			
Copper		0.509	mg/L	0.010	102	85	115			
Iron		2.63	mg/L	0.030	105	85	115			
Lead		0.518	mg/L	0.010	104	85	115			
Manganese		2.51	mg/L	0.010	100	85	115			
Selenium		0.528	mg/L	0.0050	105	85	115			
Silicon		4.96	mg/L	0.10	99	85	115			
Silver		0.0512	mg/L	0.0050	102	85	115			
Strontium		0.501	mg/L	0.10	100	85	115			
Sample ID: H11060064-001DMS3 11 Sample Matrix Spike Run: ICPMS204-B_110607A 06/07/11 13:58										
Arsenic		0.736	mg/L	0.0050	107	70	130			
Barium		0.535	mg/L	0.10	103	70	130			
Cadmium		0.252	mg/L	0.0010	101	70	130			
Copper		0.533	mg/L	0.010	100	70	130			
Iron		3.71	mg/L	0.030	104	70	130			

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8 Batch: 12447										
Sample ID: H11060064-001DMS3 11 Sample Matrix Spike Run: ICPMS204-B_110607A 06/07/11 13:58										
Lead		0.522	mg/L	0.010	104	70	130			
Manganese		3.14	mg/L	0.010	99	70	130			
Selenium		0.768	mg/L	0.0050	110	70	130			
Silicon		13.4	mg/L	0.10	97	70	130			
Silver		0.0480	mg/L	0.0050	96	70	130			
Strontium		4.53	mg/L	0.10		70	130			A
Sample ID: H11060064-001DMSD3 11 Sample Matrix Spike Duplicate Run: ICPMS204-B_110607A 06/07/11 14:02										
Arsenic		0.724	mg/L	0.0050	105	70	130	1.6	20	
Barium		0.521	mg/L	0.10	100	70	130	2.7	20	
Cadmium		0.244	mg/L	0.0010	98	70	130	3.0	20	
Copper		0.515	mg/L	0.010	97	70	130	3.5	20	
Iron		3.69	mg/L	0.030	103	70	130	0.6	20	
Lead		0.514	mg/L	0.010	103	70	130	1.5	20	
Manganese		3.09	mg/L	0.010	97	70	130	1.5	20	
Selenium		0.758	mg/L	0.0050	108	70	130	1.3	20	
Silicon		13.3	mg/L	0.10	95	70	130	0.5	20	
Silver		0.0471	mg/L	0.0050	94	70	130	1.9	20	
Strontium		4.43	mg/L	0.10		70	130	2.3	20	A
Method: E200.8 Batch: R71626										
Sample ID: ICB 11 Method Blank Run: ICPMS204-B_110607A 06/07/11 11:07										
Arsenic		9E-05	mg/L	3E-05						
Barium		ND	mg/L	3E-05						
Cadmium		ND	mg/L	1E-05						
Copper		ND	mg/L	3E-05						
Iron		0.002	mg/L	0.0002						
Lead		ND	mg/L	1.0E-05						
Manganese		ND	mg/L	1E-05						
Selenium		ND	mg/L	4E-05						
Silicon		ND	mg/L	0.0006						
Silver		4E-05	mg/L	3E-05						
Strontium		ND	mg/L	7E-06						
Sample ID: LFB 11 Laboratory Fortified Blank Run: ICPMS204-B_110607A 06/07/11 11:12										
Arsenic		0.0479	mg/L	0.0050	96	85	115			
Barium		0.0478	mg/L	0.10	96	85	115			
Cadmium		0.0470	mg/L	0.0010	94	85	115			
Copper		0.0470	mg/L	0.010	94	85	115			
Iron		4.84	mg/L	0.030	97	85	115			
Lead		0.0482	mg/L	0.010	96	85	115			
Manganese		0.0477	mg/L	0.010	95	85	115			
Selenium		0.0478	mg/L	0.0050	96	85	115			
Silicon		0.196	mg/L	0.10	98	85	115			
Silver		0.0194	mg/L	0.0050	97	85	115			

Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R71626
Sample ID: LFB	11	Laboratory Fortified Blank					Run: ICPMS204-B_110607A			06/07/11 11:12
Strontium		0.0492	mg/L	0.10	98	85	115			
Sample ID: H11060099-001CMS	11	Sample Matrix Spike					Run: ICPMS204-B_110607A			06/07/11 12:13
Arsenic		0.0485	mg/L	0.0050	96	70	130			
Barium		0.0566	mg/L	0.10	94	70	130			
Cadmium		0.0650	mg/L	0.0010	88	70	130			
Copper		0.0524	mg/L	0.010	91	70	130			
Iron		4.82	mg/L	0.030	96	70	130			
Lead		0.0484	mg/L	0.010	96	70	130			
Manganese		12.2	mg/L	0.010		70	130			A
Selenium		0.0530	mg/L	0.0050	106	70	130			
Silicon		2.01	mg/L	0.10		70	130			A
Silver		0.0177	mg/L	0.0050	88	70	130			
Strontium		0.603	mg/L	0.10		70	130			A
Sample ID: H11060099-001CMSD	11	Sample Matrix Spike Duplicate					Run: ICPMS204-B_110607A			06/07/11 12:17
Arsenic		0.0490	mg/L	0.0050	97	70	130	1.0	20	
Barium		0.0588	mg/L	0.10	99	70	130		20	
Cadmium		0.0670	mg/L	0.0010	92	70	130	3.1	20	
Copper		0.0522	mg/L	0.010	90	70	130	0.2	20	
Iron		4.81	mg/L	0.030	96	70	130	0.2	20	
Lead		0.0497	mg/L	0.010	99	70	130	2.7	20	
Manganese		12.5	mg/L	0.010		70	130	2.1	20	A
Selenium		0.0528	mg/L	0.0050	105	70	130	0.4	20	
Silicon		1.98	mg/L	0.10		70	130	1.7	20	A
Silver		0.0185	mg/L	0.0050	93	70	130	4.7	20	
Strontium		0.619	mg/L	0.10		70	130	2.6	20	A
Sample ID: H11060067-007CMS	11	Sample Matrix Spike					Run: ICPMS204-B_110607A			06/07/11 16:22
Arsenic		0.0525	mg/L	0.0050	91	70	130			
Barium		0.0855	mg/L	0.10	93	70	130			
Cadmium		0.0468	mg/L	0.0010	93	70	130			
Copper		0.0601	mg/L	0.010	88	70	130			
Iron		4.66	mg/L	0.030	90	70	130			
Lead		0.0487	mg/L	0.010	97	70	130			
Manganese		0.105	mg/L	0.010	94	70	130			
Selenium		0.0470	mg/L	0.0050	94	70	130			
Silicon		9.35	mg/L	0.10		70	130			A
Silver		0.0186	mg/L	0.0050	93	70	130			
Strontium		0.213	mg/L	0.10	97	70	130			

Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1								Analytical Run: HGCV201-H_110610A		
Sample ID: ICV		Initial Calibration Verification Standard								06/10/11 15:15
Mercury		0.00020	mg/L	0.00010	100	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard								06/10/11 15:18
Mercury		0.00020	mg/L	0.00010	98	90	110			
Method: E245.1								Batch: 12501		
Sample ID: MB-12501		Method Blank				Run: HGCV201-H_110610A				06/10/11 15:22
Mercury		ND	mg/L	3E-06						
Sample ID: LCS-12501		Laboratory Control Sample				Run: HGCV201-H_110610A				06/10/11 15:25
Mercury		0.00020	mg/L	0.00010	99	90	110			
Sample ID: H11060067-011DMS		Sample Matrix Spike				Run: HGCV201-H_110610A				06/10/11 16:15
Mercury		0.00027	mg/L	0.00010	107	70	130			
Sample ID: H11060067-011DMSD		Sample Matrix Spike Duplicate				Run: HGCV201-H_110610A				06/10/11 16:17
Mercury		0.00027	mg/L	0.00010	105	70	130	1.7	30	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										
Analytical Run: IC102-H_110606A										
Sample ID: ICV060611-12	2	Initial Calibration Verification Standard								06/06/11 12:05
Chloride		100	mg/L	1.0	103	90	110			
Sulfate		400	mg/L	1.0	101	90	110			
Sample ID: CCV060611-30	2	Continuing Calibration Verification Standard								06/06/11 15:45
Chloride		100	mg/L	1.0	100	90	110			
Sulfate		390	mg/L	1.0	99	90	110			
Method: E300.0										
Batch: R71609										
Sample ID: ICB060611-13	2	Method Blank				Run: IC102-H_110606A			06/06/11 12:17	
Chloride		0.3	mg/L	0.02						
Sulfate		ND	mg/L	0.02						
Sample ID: LFB060611-14	2	Laboratory Fortified Blank				Run: IC102-H_110606A			06/06/11 12:28	
Chloride		49	mg/L	1.0	98	90	110			
Sulfate		190	mg/L	1.1	97	90	110			
Sample ID: LFBD060611-14	2	Laboratory Fortified Blank				Run: IC102-H_110606A			06/06/11 12:40	
Chloride		49	mg/L	1.0	98	90	110			
Sulfate		190	mg/L	1.1	96	90	110			
Sample ID: H11060067-003AMS	2	Sample Matrix Spike				Run: IC102-H_110606A			06/06/11 17:53	
Chloride		58	mg/L	1.0	100	90	110			
Sulfate		220	mg/L	1.1	100	90	110			
Sample ID: H11060067-003AMSD	2	Sample Matrix Spike Duplicate				Run: IC102-H_110606A			06/06/11 18:05	
Chloride		58	mg/L	1.0	98	90	110	1.3	20	
Sulfate		220	mg/L	1.1	98	90	110	1.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1										
Analytical Run: FIA203-HE_110606B										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Ammonia as N		1.04	mg/L	0.10	104	90	110			06/07/11 15:56
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Ammonia as N		0.518	mg/L	0.10	104	90	110			06/07/11 15:59
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Ammonia as N		0.00238	mg/L	0.10		0	0			06/07/11 16:01
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Ammonia as N		0.524	mg/L	0.10	105	90	110			06/07/11 16:20
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Ammonia as N		0.529	mg/L	0.10	106	90	110			06/07/11 16:40
Method: E350.1										
Batch: R71649										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Ammonia as N		16.5	mg/L	0.50	105	90	110			Run: FIA203-HE_110606B 06/07/11 15:57
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Ammonia as N		1.03	mg/L	0.10	103	90	110			Run: FIA203-HE_110606B 06/07/11 15:58
Sample ID: MBLK	Method Blank									
Nitrogen, Ammonia as N		ND	mg/L	0.03						Run: FIA203-HE_110606B 06/07/11 16:02
Sample ID: H11060067-001EMS	Sample Matrix Spike									
Nitrogen, Ammonia as N		0.988	mg/L	0.10	99	90	110			Run: FIA203-HE_110606B 06/07/11 16:16
Sample ID: H11060067-001EMSD	Sample Matrix Spike Duplicate									
Nitrogen, Ammonia as N		1.01	mg/L	0.10	101	90	110	1.8		Run: FIA203-HE_110606B 06/07/11 16:17 20
Sample ID: H11060067-006EMS	Sample Matrix Spike									
Nitrogen, Ammonia as N		1.46	mg/L	0.10	85	90	110			Run: FIA203-HE_110606B 06/07/11 16:27 S
Sample ID: H11060067-006EMSD	Sample Matrix Spike Duplicate									
Nitrogen, Ammonia as N		1.47	mg/L	0.10	86	90	110	1.0		Run: FIA203-HE_110606B 06/07/11 16:28 20 S
Sample ID: H11060067-013EMS	Sample Matrix Spike									
Nitrogen, Ammonia as N		0.994	mg/L	0.10	99	90	110			Run: FIA203-HE_110606B 06/07/11 16:45
Sample ID: H11060067-013EMSD	Sample Matrix Spike Duplicate									
Nitrogen, Ammonia as N		1.01	mg/L	0.10	101	90	110	1.9		Run: FIA203-HE_110606B 06/07/11 16:46 20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2 Analytical Run: FIA203-HE_110603A										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrite as N		0.0949	mg/L	0.050	95	90	110			06/03/11 14:17
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrite as N		0.509	mg/L	0.050	102	90	110			06/03/11 14:20
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrite as N		-0.00192	mg/L	0.050		0	0			06/03/11 14:22
Method: E353.2 Batch: R71533										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Nitrite as N		0.0952	mg/L	0.050	95	90	110			06/03/11 14:18
Sample ID: MBLK	Method Blank									
Nitrogen, Nitrite as N		ND	mg/L	0.04						06/03/11 14:23
Sample ID: H11060064-002BMS	Sample Matrix Spike									
Nitrogen, Nitrite as N		1.23	mg/L	0.050	85	90	110			06/03/11 14:26 S
Sample ID: H11060064-002BMSSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrite as N		1.22	mg/L	0.050	85	90	110	0.2	20	06/03/11 14:28 S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2 Analytical Run: FIA203-HE_110606A										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.050	101	90	110			06/06/11 13:00
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrate+Nitrite as N		-0.00704	mg/L	0.050		0	0			06/06/11 13:06
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.464	mg/L	0.050	93	90	110			06/06/11 13:25
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.469	mg/L	0.050	94	90	110			06/06/11 13:42
Method: E353.2 Batch: R71586										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Nitrate+Nitrite as N		24.3	mg/L	0.20	100	90	110			06/06/11 13:01
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Nitrate+Nitrite as N		0.979	mg/L	0.050	98	90	110			06/06/11 13:03
Sample ID: MBLK	Method Blank									
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.01						06/06/11 13:07
Sample ID: H11060059-001CMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		1.04	mg/L	0.050	91	90	110			06/06/11 13:32
Sample ID: H11060059-001CMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		1.06	mg/L	0.050	93	90	110	2.3	20	06/06/11 13:34
Sample ID: H11060067-002EMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		1.19	mg/L	0.050	90	90	110			06/06/11 13:53
Sample ID: H11060067-002EMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		1.21	mg/L	0.050	92	90	110	1.6	20	06/06/11 13:54

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1 Analytical Run: FIA202-HE_110606B										
Sample ID: ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.241	mg/L	0.010	97	90	110			06/06/11 14:41
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Phosphorus, Total as P		-0.00218	mg/L	0.010		0	0			06/06/11 14:47
Sample ID: CCV	Continuing Calibration Verification Standard									
Phosphorus, Total as P		0.254	mg/L	0.010	102	90	110			06/06/11 15:33
Sample ID: CCV1	Continuing Calibration Verification Standard									
Phosphorus, Total as P		0.00568	mg/L	0.010	57	50	150			06/06/11 15:34
Method: E365.1 Batch: 12444										
Sample ID: H11060059-001DMS	Sample Matrix Spike									
Phosphorus, Total as P		0.190	mg/L	0.010	95	90	110			06/06/11 15:37
Sample ID: H11060059-001DMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.194	mg/L	0.010	97	90	110	2.2	20	06/06/11 15:38
Sample ID: MB-12444	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.0010						06/06/11 15:50
Sample ID: LCS-12444	Laboratory Control Sample									
Phosphorus, Total as P		8.98	mg/L	0.020	107	90	110			06/06/11 15:51

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1 Analytical Run: FIA202-HE_110610A										
Sample ID: ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.239	mg/L	0.010	96	90	110			06/10/11 09:37
Sample ID: CCV	Continuing Calibration Verification Standard									
Phosphorus, Total as P		0.253	mg/L	0.010	101	90	110			06/10/11 09:40
Sample ID: CCV1	Continuing Calibration Verification Standard									
Phosphorus, Total as P		0.00568	mg/L	0.010	57	50	150			06/10/11 09:41
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Phosphorus, Total as P		-0.00384	mg/L	0.010		0	0			06/10/11 09:42
Method: E365.1 Batch: 12444										
Sample ID: H11060059-001DMS	Sample Matrix Spike									
Phosphorus, Total as P		0.190	mg/L	0.010	94	90	110			06/10/11 10:32
Sample ID: H11060059-001DMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.195	mg/L	0.010	97	90	110	2.5	20	06/10/11 10:33
Method: E365.1 Batch: 12503										
Sample ID: LCS-12503	Laboratory Control Sample									
Phosphorus, Total as P		8.61	mg/L	0.020	103	90	110			06/10/11 09:38
Sample ID: MB-12503	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.0010						06/10/11 09:43
Sample ID: H11060067-001EMS	Sample Matrix Spike									
Phosphorus, Total as P		0.170	mg/L	0.010	85	90	110			06/10/11 09:46 S
Sample ID: H11060067-001EMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.177	mg/L	0.010	88	90	110	3.9	20	06/10/11 09:47 S
Sample ID: H11060067-013EMS	Sample Matrix Spike									
Phosphorus, Total as P		0.184	mg/L	0.010	92	90	110			06/10/11 10:04
Sample ID: H11060067-013EMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.190	mg/L	0.010	95	90	110	3.3	20	06/10/11 10:05

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/29/11

Project: Beal Mtn

Work Order: H11060064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod										
Analytical Run: SUB-B167106										
Sample ID: ICV-1	Initial Calibration Verification Standard									
Cyanide, Total		0.153	mg/L	0.0050	102	90	110			06/13/11 14:33
Method: Kelada mod										
Batch: B_54631										
Sample ID: LCS-54631	Laboratory Control Sample									
Cyanide, Total		0.0987	mg/L	0.0050	99	90	110			06/13/11 14:39
Run: SUB-B167106										
Sample ID: MB-54631	Method Blank									
Cyanide, Total		ND	mg/L	0.002						06/13/11 14:50
Run: SUB-B167106										
Sample ID: B11060446-003EMS	Sample Matrix Spike									
Cyanide, Total		0.0876	mg/L	0.0050	84	90	110			06/13/11 14:57
S										
Run: SUB-B167106										
Sample ID: B11060446-003EMSD	Sample Matrix Spike Duplicate									
Cyanide, Total		0.0900	mg/L	0.0050	86	90	110	2.8	10	06/13/11 15:15
S										
Method: Kelada mod										
Analytical Run: SUB-B167670										
Sample ID: ICV-1	Initial Calibration Verification Standard									
Cyanide, Total		0.158	mg/L	0.0050	106	90	110			06/22/11 12:34
Method: Kelada mod										
Batch: B_54870										
Sample ID: H11060304-001D	Sample Matrix Spike									
Cyanide, Total		0.110	mg/L	0.0050	110	90	110			06/22/11 14:41
Run: SUB-B167670										
Sample ID: LCS-54870	Laboratory Control Sample									
Cyanide, Total		0.0995	mg/L	0.0050	100	90	110			06/22/11 12:40
Run: SUB-B167670										
Sample ID: MB-54870	Method Blank									
Cyanide, Total		ND	mg/L	0.002						06/22/11 12:44
Run: SUB-B167670										
Sample ID: H11060304-001D	Sample Matrix Spike Duplicate									
Cyanide, Total		0.109	mg/L	0.0050	109	90	110	0.9	10	06/22/11 14:43

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Workorder Receipt Checklist



H11060064

Tetra Tech Inc

Login completed by: Tracy L. Lorash

Date Received: 6/3/2011

Reviewed by: BL2000\ablackburn

Received by: TLL

Reviewed Date: 6/8/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	1.5°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

Sample Sump-3A - one of the 3 nitric preserved containers was received with no labeling on it. It was received in a Ziploc bag with all other Sump-3A samples, so it was logged in as such. Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. TI 6/3/11.

Company Name: Tetra Tech		Project Name, PWS, Permit, Etc. Beal Mtn		Sample Origin MT		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: 303 Irene Street Helena MT 59601		Contact Name: Jim Maus Phone/Fax: 443-5210		Email: james.maus@tetra-tech.com		Sampler: (Please Print) Jim Maus	
Invoice Address: same as above		Invoice Contact & Phone: same as above		Purchase Order: 7719		Quote/Bottle Order: 7719	
Special Report/Formats: <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> DW <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: </div> <div> <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC </div> </div>							
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX		Number of Containers Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water	
1 Sump - 3A		6-2-11	1345	7W		Physiochemical	
2 Sump - 1		↓	1425	7W		Total Recoverable Metals	
3 Dup - 2		↓	0600	7W		Dissolved Metals	
4						Inorganics	
5						Nutrients	
6						SEE ATTACHED	
7						Standard Turnaround (TAT)	
8						Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	
9						Comments: See Attached Table 11	
10							

Shipped by: **Handdel**
 Cooler ID(s): **Y**
 Receipt Temp: **1.5 °C**
 On Ice: ☒ Y ☐ N
 Custody Seal: ☒ Y ☐ N
 On Bottle: ☒ Y ☐ N
 On Cooler: ☒ Y ☐ N
 Intact: ☒ Y ☐ N
 Signature Match: ☒ Y ☐ N

LABORATORY USE ONLY
H1060069

Relinquished by (print): Jim Maus	Date/Time: 6/3/11 1112	Relinquished by (print): Jim Maus	Date/Time: 6/3/11 1112	Received by (print): Jim Maus	Date/Time: 6/3/11 1112
Signature: [Signature]		Signature: [Signature]		Signature: [Signature]	

Custody Record MUST be Signed

Sample Disposal: **Return to Client**

Lab Disposal: **Return to Client**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.enormulah.com for additional information, downloadable forms and links.

Leach Pad Samples 6 samples total for Table 11

TABLE 11 LEACH PAD SOLUTION ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
pH	0.1 s.u.	A4500	24 Hours
Conductivity	1	A2510B	28 Days
Total Dissolved Solids	10	A2540C	7 Days
Total Recoverable Metals⁽²⁾			
Arsenic	0.005	E200.8	6 Months
Barium	0.005	E200.8	6 Months
Cadmium	0.00008	E200.8	6 Months
Copper	0.01	E200.8	6 Months
Iron	0.03	E200.8	6 Months
Lead	0.002	E200.8	6 Months
Manganese	0.01	E200.8	6 Months
Mercury	0.0001	E245.1	6 Months
Selenium	0.005	E200.8	6 Months
Silicon	0.1	E200.8	6 Months
Silver	0.0005	E200.8	6 Months
Strontium	0.1	E200.8	6 Months
Dissolved Metals			
Calcium	1	E200.7	6 Months
Magnesium	1	E200.7	6 Months
Potassium	1	E200.7	6 Months
Sodium	1	E200.7	6 Months
Inorganics			
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Thiocyanate	0.2	A4500	14 Days
Alkalinity, total	4	A2320B	14 Days
Chloride	1	E300.0	28 Days
Sulfate	1	E300.0	28 Days
Fluoride	0.1	A4500	28 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days
Nitrite	0.05	E353.2	48 Hours
Phosphorous, Total	0.01	E365.1	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L).

2 Leach pad solution to be analyzed for total recoverable metals for comparison to groundwater chemistry.



ANALYTICAL SUMMARY REPORT

June 22, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11060066

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn

Energy Laboratories Inc Helena MT received the following 4 samples for Tetra Tech Inc on 6/3/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11060066-001	LPPZ-3	06/02/11 10:20	06/03/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TDS Solids, Total Dissolved
H11060066-002	SBB-94-31	06/02/11 11:46	06/03/11	Aqueous	Same As Above
H11060066-003	SBB-88-25	06/02/11 13:15	06/03/11	Aqueous	Same As Above
H11060066-004	Dup-1	06/02/11 6:00	06/03/11	Aqueous	Same As Above

This report was prepared by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Wanda Johnson
Login Supervisor

Digitally signed by
Wanda Johnson
Date: 2011.06.22 10:58:37 -06:00



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Analytical Excellence Since 1952

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Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2210

CLIENT: Tetra Tech Inc
Project: Beal Mtn
Sample Delivery Group: H11060066

Report Date: 06/22/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060066-001
Client Sample ID: LPPZ-3

Report Date: 06/22/11
Collection Date: 06/02/11 10:20
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	284	mg/L		10		A2540 C	06/03/11 15:13 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/13/11 15:27 / eli-b
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	06/13/11 15:00 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/13/11 16:00 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide and Free Cyanide. WAD Cyanide and Free Cyanide were not analyzed.							
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/07/11 16:10 / reh
Nitrogen, Nitrate+Nitrite as N	0.59	mg/L		0.05		E353.2	06/06/11 13:46 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.003	mg/L		0.001		E200.8	06/07/11 14:50 / dck
Selenium	0.001	mg/L		0.001		E200.8	06/07/11 14:50 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060066-002
Client Sample ID: SBB-94-31

Report Date: 06/22/11
Collection Date: 06/02/11 11:46
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	296	mg/L		10		A2540 C	06/03/11 15:14 / cmm
INORGANICS							
Cyanide, Total	0.028	mg/L		0.005		Kelada mod	06/13/11 15:29 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/13/11 15:00 / eli-b
Cyanide, Weak Acid Dissociable	0.006	mg/L		0.005		D2036C	06/14/11 14:21 / eli-b
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/07/11 16:11 / reh
Nitrogen, Nitrate+Nitrite as N	1.86	mg/L		0.05		E353.2	06/06/11 13:47 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/07/11 14:55 / dck
Selenium	0.007	mg/L		0.001		E200.8	06/07/11 14:55 / dck

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060066-003
Client Sample ID: SBB-88-25

Report Date: 06/22/11
Collection Date: 06/02/11 13:15
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	324	mg/L		10		A2540 C	06/03/11 15:14 / cmm
INORGANICS							
Cyanide, Total	0.059	mg/L		0.005		Kelada mod	06/13/11 15:31 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/13/11 15:00 / eli-b
Cyanide, Weak Acid Dissociable	0.016	mg/L		0.005		D2036C	06/14/11 14:23 / eli-b
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/07/11 16:12 / reh
Nitrogen, Nitrate+Nitrite as N	1.00	mg/L		0.05		E353.2	06/06/11 13:48 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/07/11 14:59 / dck
Selenium	0.006	mg/L		0.001		E200.8	06/07/11 14:59 / dck

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060066-004
Client Sample ID Dup-1

Report Date: 06/22/11
Collection Date: 06/02/11 06:00
Date Received: 06/03/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	331	mg/L		10		A2540 C	06/03/11 15:14 / cmm
INORGANICS							
Cyanide, Total	0.054	mg/L		0.005		Kelada mod	06/13/11 15:33 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/13/11 15:00 / eli-b
Cyanide, Weak Acid Dissociable	0.024	mg/L		0.005		D2036C	06/14/11 14:24 / eli-b
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/07/11 16:14 / reh
Nitrogen, Nitrate+Nitrite as N	1.00	mg/L		0.05		E353.2	06/06/11 13:49 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/07/11 15:03 / dck
Selenium	0.007	mg/L		0.001		E200.8	06/07/11 15:03 / dck

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: 12439
Sample ID: MB-12439	Method Blank					Run: ACCU-124 (14410200)_110603		06/03/11 15:11		
Solids, Total Dissolved TDS @ 180 C	3	mg/L	1.0							
Sample ID: LCS-12439	Laboratory Control Sample					Run: ACCU-124 (14410200)_110603		06/03/11 15:11		
Solids, Total Dissolved TDS @ 180 C	1980	mg/L	10	99	90	110				
Sample ID: H11060064-001ADUP	Sample Duplicate					Run: ACCU-124 (14410200)_110603		06/06/11 16:46		
Solids, Total Dissolved TDS @ 180 C	3450	mg/L	10		2.3	5				
Sample ID: H11060064-002AMS	Sample Matrix Spike					Run: ACCU-124 (14410200)_110603		06/03/11 15:13		
Solids, Total Dissolved TDS @ 180 C	4680	mg/L	10	97	80	120				

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C										Batch: B_54656
Sample ID: B11060447-002EMSD		Sample Matrix Spike Duplicate				Run: SUB-B167173				06/14/11 14:50
Cyanide, Weak Acid Dissociable		0.0960	mg/L	0.0050	92	80	120	0.9	10	
Sample ID: LCS-54656		Laboratory Control Sample				Run: SUB-B167173				06/14/11 13:49
Cyanide, Weak Acid Dissociable		0.0967	mg/L	0.0050	97	90	110			
Sample ID: MB-54656		Method Blank				Run: SUB-B167173				06/14/11 13:50
Cyanide, Weak Acid Dissociable		ND	mg/L	0.002						
Sample ID: B11060447-002EMS		Sample Matrix Spike				Run: SUB-B167173				06/14/11 14:48
Cyanide, Weak Acid Dissociable		0.0952	mg/L	0.0050	91	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Analytical Run: ICPMS204-B_110607A
Sample ID: ICV STD	2	Initial Calibration Verification Standard								06/07/11 10:26
Copper		0.0513	mg/L	0.010	103	90	110			
Selenium		0.0509	mg/L	0.0050	102	90	110			
Sample ID: ICSA	2	Interference Check Sample A								06/07/11 10:30
Copper		0.000591	mg/L	0.010						
Selenium		0.000220	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								06/07/11 10:35
Copper		0.0216	mg/L	0.010	108	70	130			
Selenium		0.0112	mg/L	0.0050	112	70	130			
Sample ID: ICV STD	2	Initial Calibration Verification Standard								06/07/11 20:22
Copper		0.0510	mg/L	0.010	102	90	110			
Selenium		0.0498	mg/L	0.0050	100	90	110			
Sample ID: ICSA	2	Interference Check Sample A								06/07/11 20:27
Copper		0.000612	mg/L	0.010						
Selenium		0.000257	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								06/07/11 20:31
Copper		0.0214	mg/L	0.010	107	70	130			
Selenium		0.0105	mg/L	0.0050	105	70	130			
Sample ID: ICSA	2	Interference Check Sample A								06/08/11 13:15
Copper		0.000462	mg/L	0.010						
Selenium		6.60E-05	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								06/08/11 13:19
Copper		0.0219	mg/L	0.010	109	70	130			
Selenium		0.0116	mg/L	0.0050	116	70	130			
Method: E200.8										Batch: 12447
Sample ID: MB-12447	2	Method Blank								Run: ICPMS204-B_110607A 06/07/11 13:19
Copper		ND	mg/L	0.0004						
Selenium		ND	mg/L	0.0002						
Sample ID: LCS-12447	2	Laboratory Control Sample								Run: ICPMS204-B_110607A 06/07/11 13:23
Copper		0.509	mg/L	0.010	102	85	115			
Selenium		0.528	mg/L	0.0050	105	85	115			
Sample ID: H11060064-001DMS3	2	Sample Matrix Spike								Run: ICPMS204-B_110607A 06/07/11 13:58
Copper		0.533	mg/L	0.010	100	70	130			
Selenium		0.768	mg/L	0.0050	110	70	130			
Sample ID: H11060064-001DMSD3	2	Sample Matrix Spike Duplicate								Run: ICPMS204-B_110607A 06/07/11 14:02
Copper		0.515	mg/L	0.010	97	70	130	3.5	20	
Selenium		0.758	mg/L	0.0050	108	70	130	1.3	20	

Qualifiers:

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ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R71626
Sample ID: ICB	2	Method Blank					Run: ICPMS204-B_110607A			06/07/11 11:07
Copper		ND	mg/L	3E-05						
Selenium		ND	mg/L	4E-05						
Sample ID: LFB	2	Laboratory Fortified Blank					Run: ICPMS204-B_110607A			06/07/11 11:12
Copper		0.0470	mg/L	0.010	94	85	115			
Selenium		0.0478	mg/L	0.0050	96	85	115			
Sample ID: H11060067-007CMS	2	Sample Matrix Spike					Run: ICPMS204-B_110607A			06/07/11 16:22
Copper		0.0601	mg/L	0.010	88	70	130			
Selenium		0.0470	mg/L	0.0050	94	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1 Analytical Run: FIA203-HE_110606B										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Ammonia as N		1.04	mg/L	0.10	104	90	110			06/07/11 15:56
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Ammonia as N		0.518	mg/L	0.10	104	90	110			06/07/11 15:59
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Ammonia as N		0.00238	mg/L	0.10		0	0			06/07/11 16:01
Method: E350.1 Batch: R71649										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Ammonia as N		16.5	mg/L	0.50	105	90	110			Run: FIA203-HE_110606B 06/07/11 15:57
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Ammonia as N		1.03	mg/L	0.10	103	90	110			Run: FIA203-HE_110606B 06/07/11 15:58
Sample ID: MBLK	Method Blank									
Nitrogen, Ammonia as N		ND	mg/L	0.03						Run: FIA203-HE_110606B 06/07/11 16:02
Sample ID: H11060067-001EMS	Sample Matrix Spike									
Nitrogen, Ammonia as N		0.988	mg/L	0.10	99	90	110			Run: FIA203-HE_110606B 06/07/11 16:16
Sample ID: H11060067-001EMSD	Sample Matrix Spike Duplicate									
Nitrogen, Ammonia as N		1.01	mg/L	0.10	101	90	110	1.8	20	Run: FIA203-HE_110606B 06/07/11 16:17

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2 Analytical Run: FIA203-HE_110606A										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.050	101	90	110			06/06/11 13:00
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrate+Nitrite as N		-0.00704	mg/L	0.050		0	0			06/06/11 13:06
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.469	mg/L	0.050	94	90	110			06/06/11 13:42
Method: E353.2 Batch: R71586										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Nitrate+Nitrite as N		24.3	mg/L	0.20	100	90	110			Run: FIA203-HE_110606A 06/06/11 13:01
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Nitrate+Nitrite as N		0.979	mg/L	0.050	98	90	110			Run: FIA203-HE_110606A 06/06/11 13:03
Sample ID: MBLK	Method Blank									
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.01						Run: FIA203-HE_110606A 06/06/11 13:07
Sample ID: H11060067-002EMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		1.19	mg/L	0.050	90	90	110			Run: FIA203-HE_110606A 06/06/11 13:53
Sample ID: H11060067-002EMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		1.21	mg/L	0.050	92	90	110	1.6	20	Run: FIA203-HE_110606A 06/06/11 13:54

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 06/22/11

Project: Beal Mtn

Work Order: H11060066

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod										
Analytical Run: SUB-B167106										
Sample ID: ICV-1	Initial Calibration Verification Standard									
Cyanide, Total		0.153	mg/L	0.0050	102	90	110			06/13/11 14:33
Method: Kelada mod										
Batch: B_54631										
Sample ID: LCS-54631	Laboratory Control Sample									
Cyanide, Total		0.0987	mg/L	0.0050	99	90	110			06/13/11 14:39
Run: SUB-B167106										
Sample ID: MB-54631	Method Blank									
Cyanide, Total		ND	mg/L	0.002						06/13/11 14:50
Run: SUB-B167106										
Sample ID: B11060446-003EMS	Sample Matrix Spike									
Cyanide, Total		0.0876	mg/L	0.0050	84	90	110			06/13/11 14:57
S										
Sample ID: B11060446-003EMSD	Sample Matrix Spike Duplicate									
Cyanide, Total		0.0900	mg/L	0.0050	86	90	110	2.8	10	06/13/11 15:15
S										

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Workorder Receipt Checklist



H11060066

Tetra Tech Inc

Login completed by: Tracy L. Lorash

Date Received: 6/3/2011

Reviewed by: BL2000\ablackburn

Received by: TLL

Reviewed Date: 6/8/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	1.5°C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

Company Name: Tetra Tech		Project Name, PWS, Permit, Etc. Beal mtn.		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: 303 Irene Street Helena MT 59601		Contact Name: Jim Mans		Sample Origin: State: MT	
Invoice Address: Same as above		Phone/Fax: 443-5210		Sampler: (Please Print) Jim Mans	
Special Report/Formats: <input type="checkbox"/> DW <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____		Invoice Contact & Phone: Same as above		Purchase Order: 7717	
Sample ID/Format: LPP7-3		Collection Date: 6-2-11		Collection Time: 1020	
SBB-94-31		1146		1315	
SBB-88-25		0600		Dup-1	
5		6		7	
8		9		10	

Special Report/Formats: <input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		ANALYSIS REQUESTED Physiochemical Total Recoverable Metals Inorganics Nutrients		Matrix Number of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water	
SEE ATTACHED		Standard Turnaround (TAT)		Contact ELL prior to RUSH sample submittal for charges and scheduling - See Instruction Page	
Comments: See Attached Table 7		Receipt Temp 1.5 °C		On Ice: Y (N)	
Shipped by: Hand Del.		Cooler ID(s): Y		Custody Seal On Bottle Y (N) On Cooler Y (N) Intact Y (N) Signature Match Y (N)	

Relinquished by (print): Jim Mans		Relinquished by (print): 6/3/11		Signature: 	
Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	

Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	
Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	

Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	
Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	

Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	
Relinquished by (print): Same as above		Relinquished by (print): 6/3/11		Signature: 	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

This serves as notice of the possibility that our contact data will be publicly released by our company and we hereby disclaim any responsibility for additional information downloadable from our website or links.

5
Leach Pad Area Groundwater 8 samples X 2 events for Table 7

TABLE 7 LEACH PAD AREA GROUNDWATER ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
Total Dissolved Solids	10	A2540C	7 Days
Metals⁽²⁾			
Copper	0.001	E200.8	6 Months
Selenium	0.001	E200.8	6 Months
Inorganics			
Cyanide, free	0.2	SM4500 CN F	14 Days
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L).

2 Groundwater to be analyzed for total recoverable metals for comparison to leach pad chemistry.

* SBB-91-29
 \ SBB-94-31
 \ SBB-88-25
 \ LPP2-3
 \ DWP

5 X 2 events = 10

ANALYTICAL SUMMARY REPORT

July 06, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11060340

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn

Energy Laboratories Inc Helena MT received the following 3 samples for Tetra Tech Inc on 6/17/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11060340-001	SBB-91-29	06/16/11 12:15	06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TDS Solids, Total Dissolved
H11060340-002	SBB-87-02	06/16/11 16:35	06/17/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography pH
H11060340-003	WRMW-1	06/16/11 13:50	06/17/11	Aqueous	Same As Above

This report was prepared by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



CLIENT: Tetra Tech Inc
Project: Beal Mtn
Sample Delivery Group: H11060340

Report Date: 07/06/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060340-001
Client Sample ID SBB-91-29

Report Date: 07/06/11
Collection Date: 06/16/11 12:15
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	1060	mg/L		10		A2540 C	06/20/11 15:05 / cmm
INORGANICS							
Cyanide, Total	0.341	mg/L	D	0.006		Kelada mod	06/28/11 14:30 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	0.098	mg/L		0.005		D2036C	06/28/11 12:33 / eli-b
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:44 / reh
Nitrogen, Nitrate+Nitrite as N	3.12	mg/L		0.05		E353.2	06/20/11 11:24 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	06/23/11 19:01 / dck
Selenium	0.008	mg/L		0.001		E200.8	06/23/11 19:01 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060340-002
Client Sample ID SBB-87-02

Report Date: 07/06/11
Collection Date: 06/16/11 16:35
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.9	s.u.		0.1		A4500-H B	06/17/11 23:25 / zeg
Conductivity	1550	umhos/cm		1		A2510 B	06/17/11 16:06 / cmm
INORGANICS							
Alkalinity, Total as CaCO ₃	56	mg/L		4		A2320 B	06/17/11 23:25 / zeg
Sulfate	840	mg/L	D	5		E300.0	06/30/11 15:31 / zeg
Hardness as CaCO ₃	816	mg/L		1		A2340 B	06/29/11 15:39 / abb
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.005		E200.8	06/23/11 19:05 / dck
Barium	ND	mg/L		0.1		E200.8	06/23/11 19:05 / dck
Cadmium	ND	mg/L		0.001		E200.8	06/23/11 19:05 / dck
Calcium	290	mg/L		1		E200.8	06/23/11 19:05 / dck
Chromium	ND	mg/L		0.01		E200.8	06/23/11 19:05 / dck
Lead	ND	mg/L		0.01		E200.8	06/23/11 19:05 / dck
Magnesium	22	mg/L		1		E200.8	06/23/11 19:05 / dck
Mercury	ND	mg/L		0.001		E200.8	06/23/11 19:05 / dck
Selenium	0.008	mg/L		0.005		E200.8	06/23/11 19:05 / dck
Silver	ND	mg/L		0.005		E200.8	06/23/11 19:05 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060340-003
Client Sample ID WRMW-1

Report Date: 07/06/11
Collection Date: 06/16/11 13:50
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.5	s.u.		0.1		A4500-H B	06/17/11 23:32 / zeg
Conductivity	1700	umhos/cm		1		A2510 B	06/17/11 16:07 / cmm
INORGANICS							
Alkalinity, Total as CaCO ₃	91	mg/L		4		A2320 B	06/17/11 23:32 / zeg
Sulfate	950	mg/L	D	5		E300.0	06/30/11 15:42 / zeg
Hardness as CaCO ₃	951	mg/L		1		A2340 B	06/29/11 15:39 / abb
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.005		E200.8	06/23/11 19:28 / dck
Barium	ND	mg/L		0.1		E200.8	06/23/11 19:28 / dck
Cadmium	ND	mg/L		0.001		E200.8	06/23/11 19:28 / dck
Calcium	351	mg/L		1		E200.8	06/29/11 18:44 / dck
Chromium	ND	mg/L		0.01		E200.8	06/23/11 19:28 / dck
Lead	ND	mg/L		0.01		E200.8	06/23/11 19:28 / dck
Magnesium	25	mg/L		1		E200.8	06/23/11 19:28 / dck
Mercury	ND	mg/L		0.001		E200.8	06/23/11 19:28 / dck
Selenium	0.055	mg/L		0.005		E200.8	06/23/11 19:28 / dck
Silver	ND	mg/L		0.005		E200.8	06/23/11 19:28 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R71942
Sample ID: MBLK										
Alkalinity, Total as CaCO ₃		Method Blank					Run: MAN-TECH_110617D			06/17/11 16:38
		1	mg/L	0.6						
Sample ID: LCS-06022011										
Alkalinity, Total as CaCO ₃		Laboratory Control Sample					Run: MAN-TECH_110617D			06/17/11 16:46
		610	mg/L	4.0	101	90	110			
Sample ID: H11060332-007AMS										
Alkalinity, Total as CaCO ₃		Sample Matrix Spike					Run: MAN-TECH_110617D			06/17/11 23:04
		1100	mg/L	4.0	78	90	110			S
Sample ID: H11060312-001ADUP										
Alkalinity, Total as CaCO ₃		Sample Duplicate					Run: MAN-TECH_110617D			06/17/11 23:18
		250	mg/L	4.0				0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: A2510 B								Analytical Run: COND_110617A			
Sample ID: ICV1_110617A	Initial Calibration Verification Standard										06/17/11 10:00
Conductivity		1000	umhos/cm	1.0	100	90	110				
Sample ID: CCV7_110617A								06/17/11 15:09			
Conductivity		1410	umhos/cm	1.0	100	90	110				
Method: A2510 B								Batch: 110617A-COND-PROBE-W			
Sample ID: MBLK1_110617A	Method Blank					Run: COND_110617A			06/17/11 10:00		
Conductivity		2	umhos/cm								
Sample ID: H11060320-001ADUP	Sample Duplicate					Run: COND_110617A			06/17/11 10:20		
Conductivity		284	umhos/cm	1.0				0.3	10		
Sample ID: H11060320-010ADUP	Sample Duplicate					Run: COND_110617A			06/17/11 10:27		
Conductivity		1.21	umhos/cm	1.0				0.6	10		

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: 12623
Sample ID: MB-12623		Method Blank					Run: ACCU-124 (14410200)_110620			06/20/11 15:05
Solids, Total Dissolved TDS @ 180 C		3	mg/L	1.0						
Sample ID: LCS-12623		Laboratory Control Sample					Run: ACCU-124 (14410200)_110620			06/20/11 15:05
Solids, Total Dissolved TDS @ 180 C		1980	mg/L	10	99	90	110			
Sample ID: H11060340-001ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110620			06/20/11 15:06
Solids, Total Dissolved TDS @ 180 C		1070	mg/L	10				1.5	5	
Sample ID: H11060346-001BMS		Sample Matrix Spike					Run: ACCU-124 (14410200)_110620			06/20/11 15:06
Solids, Total Dissolved TDS @ 180 C		2410	mg/L	10	99	80	120			
Sample ID: H11060346-010BDUP		Sample Duplicate					Run: ACCU-124 (14410200)_110620			06/20/11 15:12
Solids, Total Dissolved TDS @ 180 C		724	mg/L	10				0.6	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: MAN-TECH_110617D		
Sample ID: CCV1-1905	Continuing Calibration Verification Standard									06/17/11 16:19
pH		3.92	s.u.	0.10	98	98	102			
Sample ID: CCV2-2042	Continuing Calibration Verification Standard									06/17/11 16:25
pH		9.98	s.u.	0.10	100	98	102			
Sample ID: ICV-1942	Initial Calibration Verification Standard									06/17/11 16:28
pH		6.96	s.u.	0.10	99	99	101			
Sample ID: CCV-1943	Continuing Calibration Verification Standard									06/17/11 22:33
pH		6.98	s.u.	0.10	100	98	102			
Method: A4500-H B								Batch: R71942		
Sample ID: H11060320-020ADUP	Sample Duplicate									06/17/11 19:25
pH		5.43	s.u.	0.10				3.3	3	R
Sample ID: H11060328-007ADUP	Sample Duplicate									06/17/11 20:57
pH		8.05	s.u.	0.10				0.1	3	
Sample ID: H11060332-002ADUP	Sample Duplicate									06/17/11 22:00
pH		8.25	s.u.	0.10				0.1	3	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C										Batch: B_54987
Sample ID: B11062593-001EMSD										
Sample Matrix Spike Duplicate						Run: SUB-B168039				06/28/11 12:00
Cyanide, Weak Acid Dissociable		0.117	mg/L	0.0050	114	80	120	4.2	10	
Sample ID: B11062593-001EMS										
Sample Matrix Spike						Run: SUB-B168039				06/28/11 11:58
Cyanide, Weak Acid Dissociable		0.112	mg/L	0.0050	109	80	120			
Sample ID: MB-54987										
Method Blank						Run: SUB-B168039				06/28/11 11:51
Cyanide, Weak Acid Dissociable		ND	mg/L	0.002						
Sample ID: LCS-54987										
Laboratory Control Sample						Run: SUB-B168039				06/28/11 11:47
Cyanide, Weak Acid Dissociable		0.107	mg/L	0.0050	107	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110622A			
Sample ID: ICV STD	11	Initial Calibration Verification Standard						06/22/11 23:20		
Arsenic		0.0495	mg/L	0.0050	99	90	110			
Barium		0.0504	mg/L	0.10	101	90	110			
Cadmium		0.0264	mg/L	0.0010	106	90	110			
Calcium		2.53	mg/L	0.50	101	90	110			
Chromium		0.0489	mg/L	0.010	98	90	110			
Copper		0.0509	mg/L	0.010	102	90	110			
Lead		0.0509	mg/L	0.010	102	90	110			
Magnesium		2.52	mg/L	0.50	101	90	110			
Mercury		0.00201	mg/L	0.0010	100	90	110			
Selenium		0.0502	mg/L	0.0050	100	90	110			
Silver		0.0255	mg/L	0.0050	102	90	110			
Sample ID: ICSA	11	Interference Check Sample A						06/22/11 23:25		
Arsenic		0.000173	mg/L	0.0050						
Barium		0.000255	mg/L	0.10						
Cadmium		0.000657	mg/L	0.0010						
Calcium		117	mg/L	0.50	98	70	130			
Chromium		0.00234	mg/L	0.010						
Copper		0.000457	mg/L	0.010						
Lead		0.000130	mg/L	0.010						
Magnesium		43.4	mg/L	0.50	108	70	130			
Mercury		4.90E-05	mg/L	0.0010						
Selenium		0.000208	mg/L	0.0050						
Silver		0.000426	mg/L	0.0050						
Sample ID: ICSAB	11	Interference Check Sample AB						06/22/11 23:29		
Arsenic		0.0109	mg/L	0.0050	109	70	130			
Barium		0.000229	mg/L	0.10		0	0			
Cadmium		0.0109	mg/L	0.0010	109	70	130			
Calcium		116	mg/L	0.50	97	70	130			
Chromium		0.0231	mg/L	0.010	116	70	130			
Copper		0.0210	mg/L	0.010	105	70	130			
Lead		8.00E-05	mg/L	0.010		0	0			
Magnesium		43.8	mg/L	0.50	110	70	130			
Mercury		3.10E-05	mg/L	0.0010		0	0			
Selenium		0.0105	mg/L	0.0050	105	70	130			
Silver		0.0206	mg/L	0.0050	103	70	130			
Sample ID: ICV STD	11	Initial Calibration Verification Standard						06/23/11 05:52		
Arsenic		0.0501	mg/L	0.0050	100	90	110			
Barium		0.0507	mg/L	0.10	101	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Calcium		2.51	mg/L	0.50	101	90	110			
Chromium		0.0487	mg/L	0.010	97	90	110			
Copper		0.0506	mg/L	0.010	101	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110622A		
Sample ID: ICV STD	11	Initial Calibration Verification Standard								06/23/11 05:52
Lead		0.0502	mg/L	0.010	100	90	110			
Magnesium		2.52	mg/L	0.50	101	90	110			
Mercury		0.00197	mg/L	0.0010	99	90	110			
Selenium		0.0511	mg/L	0.0050	102	90	110			
Silver		0.0257	mg/L	0.0050	103	90	110			
Sample ID: ICSA	11	Interference Check Sample A								06/23/11 05:57
Arsenic		0.000174	mg/L	0.0050						
Barium		0.000290	mg/L	0.10						
Cadmium		0.000565	mg/L	0.0010						
Calcium		117	mg/L	0.50	98	70	130			
Chromium		0.00218	mg/L	0.010						
Copper		0.000462	mg/L	0.010						
Lead		0.000105	mg/L	0.010						
Magnesium		41.9	mg/L	0.50	105	70	130			
Mercury		5.40E-05	mg/L	0.0010						
Selenium		0.000208	mg/L	0.0050						
Silver		0.000352	mg/L	0.0050						
Sample ID: ICSAB	11	Interference Check Sample AB								06/23/11 06:01
Arsenic		0.0107	mg/L	0.0050	107	70	130			
Barium		0.000236	mg/L	0.10		0	0			
Cadmium		0.0109	mg/L	0.0010	109	70	130			
Calcium		116	mg/L	0.50	97	70	130			
Chromium		0.0224	mg/L	0.010	112	70	130			
Copper		0.0206	mg/L	0.010	103	70	130			
Lead		6.90E-05	mg/L	0.010		0	0			
Magnesium		42.1	mg/L	0.50	105	70	130			
Mercury		2.70E-05	mg/L	0.0010		0	0			
Selenium		0.0106	mg/L	0.0050	106	70	130			
Silver		0.0204	mg/L	0.0050	102	70	130			
Sample ID: ICV STD	11	Initial Calibration Verification Standard								06/23/11 15:57
Arsenic		0.0496	mg/L	0.0050	99	90	110			
Barium		0.0496	mg/L	0.10	99	90	110			
Cadmium		0.0267	mg/L	0.0010	107	90	110			
Calcium		2.49	mg/L	0.50	99	90	110			
Chromium		0.0489	mg/L	0.010	98	90	110			
Copper		0.0508	mg/L	0.010	102	90	110			
Lead		0.0508	mg/L	0.010	102	90	110			
Magnesium		2.55	mg/L	0.50	102	90	110			
Mercury		0.00205	mg/L	0.0010	103	90	110			
Selenium		0.0495	mg/L	0.0050	99	90	110			
Silver		0.0258	mg/L	0.0050	103	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110622A			
Sample ID: ICSA	11	Interference Check Sample A							06/23/11 16:01	
Arsenic		0.000187	mg/L	0.0050						
Barium		0.000165	mg/L	0.10						
Cadmium		0.000479	mg/L	0.0010						
Calcium		109	mg/L	0.50	91	70	130			
Chromium		0.00204	mg/L	0.010						
Copper		0.000381	mg/L	0.010						
Lead		9.20E-05	mg/L	0.010						
Magnesium		40.4	mg/L	0.50	101	70	130			
Mercury		5.70E-05	mg/L	0.0010						
Selenium		0.000230	mg/L	0.0050						
Silver		0.000173	mg/L	0.0050						
Sample ID: ICSAB	11	Interference Check Sample AB							06/23/11 16:06	
Arsenic		0.0102	mg/L	0.0050	102	70	130			
Barium		0.000155	mg/L	0.10		0	0			
Cadmium		0.0102	mg/L	0.0010	102	70	130			
Calcium		109	mg/L	0.50	91	70	130			
Chromium		0.0216	mg/L	0.010	108	70	130			
Copper		0.0198	mg/L	0.010	99	70	130			
Lead		6.90E-05	mg/L	0.010		0	0			
Magnesium		41.2	mg/L	0.50	103	70	130			
Mercury		1.80E-05	mg/L	0.0010		0	0			
Selenium		0.00970	mg/L	0.0050	97	70	130			
Silver		0.0191	mg/L	0.0050	96	70	130			
Sample ID: ICV STD	11	Initial Calibration Verification Standard							06/24/11 06:10	
Arsenic		0.0495	mg/L	0.0050	99	90	110			
Barium		0.0492	mg/L	0.10	98	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Calcium		2.51	mg/L	0.50	100	90	110			
Chromium		0.0488	mg/L	0.010	98	90	110			
Copper		0.0510	mg/L	0.010	102	90	110			
Lead		0.0504	mg/L	0.010	101	90	110			
Magnesium		2.56	mg/L	0.50	102	90	110			
Mercury		0.00204	mg/L	0.0010	102	90	110			
Selenium		0.0499	mg/L	0.0050	100	90	110			
Silver		0.0254	mg/L	0.0050	102	90	110			
Sample ID: ICSA	11	Interference Check Sample A							06/24/11 06:14	
Arsenic		0.000157	mg/L	0.0050						
Barium		0.000191	mg/L	0.10						
Cadmium		0.000434	mg/L	0.0010						
Calcium		112	mg/L	0.50	93	70	130			
Chromium		0.00209	mg/L	0.010						
Copper		0.000443	mg/L	0.010						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110622A		
Sample ID: ICSA	11	Interference Check Sample A								06/24/11 06:14
Lead		9.40E-05	mg/L	0.010						
Magnesium		41.0	mg/L	0.50	102	70	130			
Mercury		3.90E-05	mg/L	0.0010						
Selenium		0.000249	mg/L	0.0050						
Silver		0.000254	mg/L	0.0050						
Sample ID: ICSAB	11	Interference Check Sample AB								06/24/11 06:19
Arsenic		0.0104	mg/L	0.0050	104	70	130			
Barium		0.000165	mg/L	0.10		0	0			
Cadmium		0.0103	mg/L	0.0010	103	70	130			
Calcium		109	mg/L	0.50	91	70	130			
Chromium		0.0216	mg/L	0.010	108	70	130			
Copper		0.0201	mg/L	0.010	100	70	130			
Lead		6.40E-05	mg/L	0.010		0	0			
Magnesium		41.1	mg/L	0.50	103	70	130			
Mercury		2.60E-05	mg/L	0.0010		0	0			
Selenium		0.00967	mg/L	0.0050	97	70	130			
Silver		0.0197	mg/L	0.0050	99	70	130			
Sample ID: ICV STD	11	Initial Calibration Verification Standard								06/24/11 12:34
Arsenic		0.0494	mg/L	0.0050	99	90	110			
Barium		0.0491	mg/L	0.10	98	90	110			
Cadmium		0.0256	mg/L	0.0010	103	90	110			
Calcium		2.52	mg/L	0.50	101	90	110			
Chromium		0.0488	mg/L	0.010	98	90	110			
Copper		0.0513	mg/L	0.010	103	90	110			
Lead		0.0499	mg/L	0.010	100	90	110			
Magnesium		2.52	mg/L	0.50	101	90	110			
Mercury		0.00200	mg/L	0.0010	100	90	110			
Selenium		0.0502	mg/L	0.0050	100	90	110			
Silver		0.0254	mg/L	0.0050	102	90	110			
Sample ID: ICSA	11	Interference Check Sample A								06/24/11 12:41
Arsenic		0.000183	mg/L	0.0050						
Barium		0.000102	mg/L	0.10						
Cadmium		0.000395	mg/L	0.0010						
Calcium		111	mg/L	0.50	93	70	130			
Chromium		0.00203	mg/L	0.010						
Copper		0.000413	mg/L	0.010						
Lead		8.20E-05	mg/L	0.010						
Magnesium		40.1	mg/L	0.50	100	70	130			
Mercury		4.60E-05	mg/L	0.0010						
Selenium		0.000180	mg/L	0.0050						
Silver		0.000162	mg/L	0.0050						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110622A			
Sample ID: ICSAB	11	Interference Check Sample AB							06/24/11 12:46	
Arsenic		0.0103	mg/L	0.0050	103	70	130			
Barium		0.000116	mg/L	0.10		0	0			
Cadmium		0.00996	mg/L	0.0010	100	70	130			
Calcium		109	mg/L	0.50	91	70	130			
Chromium		0.0213	mg/L	0.010	107	70	130			
Copper		0.0198	mg/L	0.010	99	70	130			
Lead		6.30E-05	mg/L	0.010		0	0			
Magnesium		40.7	mg/L	0.50	102	70	130			
Mercury		2.60E-05	mg/L	0.0010		0	0			
Selenium		0.00986	mg/L	0.0050	99	70	130			
Silver		0.0192	mg/L	0.0050	96	70	130			
Sample ID: ICV STD	11	Initial Calibration Verification Standard							06/25/11 01:24	
Arsenic		0.0491	mg/L	0.0050	98	90	110			
Barium		0.0494	mg/L	0.10	99	90	110			
Cadmium		0.0259	mg/L	0.0010	104	90	110			
Calcium		2.48	mg/L	0.50	99	90	110			
Chromium		0.0486	mg/L	0.010	97	90	110			
Copper		0.0506	mg/L	0.010	101	90	110			
Lead		0.0505	mg/L	0.010	101	90	110			
Magnesium		2.48	mg/L	0.50	99	90	110			
Mercury		0.00198	mg/L	0.0010	99	90	110			
Selenium		0.0511	mg/L	0.0050	102	90	110			
Silver		0.0251	mg/L	0.0050	101	90	110			
Sample ID: ICSA	11	Interference Check Sample A							06/25/11 01:29	
Arsenic		0.000146	mg/L	0.0050						
Barium		9.10E-05	mg/L	0.10						
Cadmium		0.000352	mg/L	0.0010						
Calcium		111	mg/L	0.50	92	70	130			
Chromium		0.00205	mg/L	0.010						
Copper		0.000429	mg/L	0.010						
Lead		8.40E-05	mg/L	0.010						
Magnesium		40.6	mg/L	0.50	101	70	130			
Mercury		4.80E-05	mg/L	0.0010						
Selenium		0.000197	mg/L	0.0050						
Silver		0.000201	mg/L	0.0050						
Sample ID: ICSAB	11	Interference Check Sample AB							06/25/11 01:34	
Arsenic		0.0102	mg/L	0.0050	102	70	130			
Barium		9.00E-05	mg/L	0.10		0	0			
Cadmium		0.0100	mg/L	0.0010	100	70	130			
Calcium		111	mg/L	0.50	92	70	130			
Chromium		0.0217	mg/L	0.010	108	70	130			
Copper		0.0199	mg/L	0.010	100	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110622A		
Sample ID: ICSAB	11	Interference Check Sample AB								06/25/11 01:34
Lead		6.50E-05	mg/L	0.010		0	0			
Magnesium		40.4	mg/L	0.50	101	70	130			
Mercury		2.10E-05	mg/L	0.0010		0	0			
Selenium		0.00969	mg/L	0.0050	97	70	130			
Silver		0.0194	mg/L	0.0050	97	70	130			
Method: E200.8								Batch: R72108		
Sample ID: ICB	11	Method Blank								06/23/11 06:28
				Run: ICPMS204-B_110622A						
Arsenic		ND	mg/L	3E-05						
Barium		ND	mg/L	3E-05						
Cadmium		ND	mg/L	1E-05						
Calcium		ND	mg/L	0.003						
Chromium		ND	mg/L	6E-05						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	1.0E-05						
Magnesium		0.001	mg/L	0.0007						
Mercury		ND	mg/L	9E-06						
Selenium		ND	mg/L	4E-05						
Silver		9E-05	mg/L	3E-05						
Sample ID: LFB	11	Laboratory Fortified Blank								06/23/11 06:33
				Run: ICPMS204-B_110622A						
Arsenic		0.0484	mg/L	0.0050	97	85	115			
Barium		0.0495	mg/L	0.10	99	85	115			
Cadmium		0.0480	mg/L	0.0010	96	85	115			
Calcium		44.6	mg/L	0.50	89	85	115			
Chromium		0.0484	mg/L	0.010	97	85	115			
Copper		0.0498	mg/L	0.010	100	85	115			
Lead		0.0497	mg/L	0.010	99	85	115			
Magnesium		46.7	mg/L	0.50	93	85	115			
Mercury		0.00104	mg/L	0.0010	104	85	115			
Selenium		0.0484	mg/L	0.0050	97	85	115			
Silver		0.0187	mg/L	0.0050	93	85	115			
Sample ID: H11060332-007BMS	11	Sample Matrix Spike								06/23/11 18:43
				Run: ICPMS204-B_110622A						
Arsenic		0.0507	mg/L	0.0050	96	70	130			
Barium		0.137	mg/L	0.10	89	70	130			
Cadmium		0.0447	mg/L	0.0010	89	70	130			
Calcium		173	mg/L	1.0	65	70	130			S
Chromium		0.0481	mg/L	0.010	96	70	130			
Copper		0.0499	mg/L	0.010	98	70	130			
Lead		0.0488	mg/L	0.010	97	70	130			
Magnesium		276	mg/L	1.0		70	130			A
Mercury		0.00105	mg/L	0.0010	105	70	130			
Selenium		0.0492	mg/L	0.0050	96	70	130			
Silver		0.0180	mg/L	0.0050	90	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R72108
Sample ID: H11060332-007BMS	11	Sample Matrix Spike				Run: ICPMS204-B_110622A			06/23/11 18:43	
Sample ID: H11060332-007BMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110622A			06/23/11 18:47	
Arsenic		0.0503	mg/L	0.0050	96	70	130	0.8	20	
Barium		0.137	mg/L	0.10	88	70	130	0.4	20	
Cadmium		0.0444	mg/L	0.0010	89	70	130	0.5	20	
Calcium		174	mg/L	1.0	65	70	130	0.1	20	S
Chromium		0.0473	mg/L	0.010	94	70	130	1.7	20	
Copper		0.0498	mg/L	0.010	97	70	130	0.2	20	
Lead		0.0492	mg/L	0.010	98	70	130	0.8	20	
Magnesium		274	mg/L	1.0		70	130	0.6	20	A
Mercury		0.00108	mg/L	0.0010	108	70	130	3.1	20	
Selenium		0.0475	mg/L	0.0050	93	70	130	3.5	20	
Silver		0.0176	mg/L	0.0050	88	70	130	2.1	20	

Qualifiers:

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A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110628A		
Sample ID: ICV STD	Initial Calibration Verification Standard									06/28/11 11:13
Calcium		2.54	mg/L	0.50	102	90	110			
Sample ID: ICSA	Interference Check Sample A									06/28/11 11:17
Calcium		116	mg/L	0.50	97	70	130			
Sample ID: ICSAB	Interference Check Sample AB									06/28/11 11:22
Calcium		113	mg/L	0.50	94	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard									06/29/11 00:24
Calcium		2.55	mg/L	0.50	102	90	110			
Sample ID: ICSA	Interference Check Sample A									06/29/11 00:28
Calcium		113	mg/L	0.50	94	70	130			
Sample ID: ICSAB	Interference Check Sample AB									06/29/11 00:33
Calcium		110	mg/L	0.50	91	70	130			
Sample ID: ICSA	Interference Check Sample A									06/29/11 11:39
Calcium		113	mg/L	0.50	94	70	130			
Sample ID: ICSAB	Interference Check Sample AB									06/29/11 11:44
Calcium		108	mg/L	0.50	90	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard									06/29/11 20:39
Calcium		2.54	mg/L	0.50	102	90	110			
Sample ID: ICSA	Interference Check Sample A									06/29/11 20:44
Calcium		110	mg/L	0.50	92	70	130			
Sample ID: ICSAB	Interference Check Sample AB									06/29/11 20:48
Calcium		110	mg/L	0.50	92	70	130			
Method: E200.8								Batch: R72226		
Sample ID: ICB	Method Blank									06/28/11 12:07
Calcium		ND	mg/L	0.003				Run: ICPMS204-B_110628A		
Sample ID: LFB	Laboratory Fortified Blank									06/28/11 12:12
Calcium		45.7	mg/L	0.50	91	85	115	Run: ICPMS204-B_110628A		
Sample ID: LFB-12683	Laboratory Fortified Blank									06/28/11 14:28
Calcium		24700	mg/kg	1.4	99	85	115	Run: ICPMS204-B_110628A		
Sample ID: LFB-12705	Laboratory Fortified Blank									06/28/11 20:10
Calcium		23900	mg/kg	1.4	96	85	115	Run: ICPMS204-B_110628A		
Sample ID: H11060452-011CMS	Sample Matrix Spike									06/29/11 17:19
Calcium		82.8	mg/L	1.0	79	70	130	Run: ICPMS204-B_110628A		
Sample ID: H11060452-011CMSD	Sample Matrix Spike Duplicate									06/29/11 17:26
Calcium		81.1	mg/L	1.0	75	70	130	Run: ICPMS204-B_110628A	2.0	20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R72226
Sample ID: H11060452-011CMSD		Sample Matrix Spike Duplicate				Run: ICPMS204-B_110628A				06/29/11 17:26

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										Analytical Run: IC102-H_110630A
Sample ID: ICV062911-12		Initial Calibration Verification Standard								06/30/11 13:35
Sulfate		380	mg/L	1.0	96	90	110			
Sample ID: CCV062911-15		Continuing Calibration Verification Standard								06/30/11 14:10
Sulfate		380	mg/L	1.0	95	90	110			
Method: E300.0										Batch: R72324
Sample ID: ICB062911-13		Method Blank					Run: IC102-H_110630A			06/30/11 13:46
Sulfate		ND	mg/L	0.02						
Sample ID: LFB062911-14		Laboratory Fortified Blank					Run: IC102-H_110630A			06/30/11 13:58
Sulfate		180	mg/L	1.1	92	90	110			
Sample ID: H11060448-002AMS		Sample Matrix Spike					Run: IC102-H_110630A			06/30/11 16:17
Sulfate		430	mg/L	2.0	82	90	110			S
Sample ID: H11060448-002AMSD		Sample Matrix Spike Duplicate					Run: IC102-H_110630A			06/30/11 16:29
Sulfate		430	mg/L	2.0	81	90	110	0.5	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: FIA203-HE_110622A		
Sample ID: ICV	Initial Calibration Verification Standard									06/22/11 11:31
Nitrogen, Ammonia as N		1.02	mg/L	0.10	102	90	110			
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									06/22/11 11:36
Nitrogen, Ammonia as N		-0.0414	mg/L	0.10		0	0			
Method: E350.1								Batch: R72064		
Sample ID: LCS	Laboratory Control Sample					Run: FIA203-HE_110622A			06/22/11 11:32	
Nitrogen, Ammonia as N		16.5	mg/L	0.50	105	90	110			
Sample ID: LFB	Laboratory Fortified Blank					Run: FIA203-HE_110622A			06/22/11 11:33	
Nitrogen, Ammonia as N		1.00	mg/L	0.10	101	90	110			
Sample ID: MBLK	Method Blank					Run: FIA203-HE_110622A			06/22/11 11:54	
Nitrogen, Ammonia as N		ND	mg/L	0.002						
Sample ID: H11060342-001CMS	Sample Matrix Spike					Run: FIA203-HE_110622A			06/22/11 12:49	
Nitrogen, Ammonia as N		0.990	mg/L	0.10	101	80	120			
Sample ID: H11060342-001CMSD	Sample Matrix Spike Duplicate					Run: FIA203-HE_110622A			06/22/11 12:50	
Nitrogen, Ammonia as N		0.969	mg/L	0.10	99	80	120	2.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2							Analytical Run: NUTRIENTS_110620A			
Sample ID: ICV-1	Initial Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		1.09	mg/L	0.050	109	90	110			06/20/11 10:08
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.050		0	0			06/20/11 10:15
Sample ID: CCV-33	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.520	mg/L	0.050	104	90	110			06/20/11 11:12
Method: E353.2							Batch: A2011-06-20_5_NO3_01			
Sample ID: LCS-2	Laboratory Control Sample									
Nitrogen, Nitrate+Nitrite as N		25.5	mg/L	0.20	105	90	110			06/20/11 10:10
Sample ID: LFB-3	Laboratory Fortified Blank									
Nitrogen, Nitrate+Nitrite as N		1.04	mg/L	0.050	104	90	110			06/20/11 10:12
Sample ID: MBLK-7	Method Blank									
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.006						06/20/11 10:19
Sample ID: H11060332-006DMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		0.990	mg/L	0.050	99	90	110			06/20/11 11:18
Sample ID: H11060332-006DMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		1.00	mg/L	0.050	100	90	110	1.0	20	06/20/11 11:20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/06/11

Project: Beal Mtn

Work Order: H11060340

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod								Analytical Run: SUB-B168039		
Sample ID: ICV-1		Initial Calibration Verification Standard								06/28/11 11:35
Cyanide, Total		0.159	mg/L	0.0050	106	90	110			
Method: Kelada mod								Batch: B_55001		
Sample ID: H11060342-019D		Sample Matrix Spike Duplicate								06/28/11 14:26
Cyanide, Total		0.101	mg/L	0.0050	101	90	110	4.1	10	
Sample ID: LCS-55001		Laboratory Control Sample								06/28/11 11:49
Cyanide, Total		0.0998	mg/L	0.0050	100	90	110			
Sample ID: MB-55001		Method Blank								06/28/11 11:53
Cyanide, Total		ND	mg/L	0.002						
Sample ID: H11060342-019D		Sample Matrix Spike								06/28/11 14:24
Cyanide, Total		0.106	mg/L	0.0050	106	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Workorder Receipt Checklist



H11060340

Login completed by: Tracy L. Lorash

Date Received: 6/17/2011

Reviewed by: BL2000\ablackburn

Received by: TLL

Reviewed Date: 6/21/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	4.8 °C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None

Leach Pad Area Groundwater 8 samples X 2 events for Table 7

TABLE 7 LEACH PAD AREA GROUNDWATER ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
Total Dissolved Solids	10	A2540C	7 Days
Metals⁽²⁾			
Copper	0.001	E200.8	6 Months
Selenium	0.001	E200.8	6 Months
Inorganics			
Cyanide, free	0.2	SM4500 CN F	14 Days
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L).

2 Groundwater to be analyzed for total recoverable metals for comparison to leach pad chemistry.

SBB-91-29

Waste Rock Dump Groundwater samples 2 samples X 2 events for Table 9

TABLE 9 WASTE ROCK DUMP GROUNDWATER ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
pH	0.1	A45400	24 hours
Conductivity	1	A2510B	28 Days
Metals⁽²⁾			
Arsenic	0.005	E200.8	6 Months
Barium	0.1	E200.8	6 Months
Cadmium	0.001	E200.8	6 Months
Calcium	1	E200.8	6 Months
Chromium	0.01	E200.8	6 Months
Lead	0.01	E200.8	6 Months
Magnesium	1	E200.7	6 Months
Mercury	0.001	E200.8	6 Months
Selenium	0.005	E200.8	6 Months
Silver	0.005	E200.8	6 Months
Inorganics			
Total Alkalinity, total CaCO ₃	4	A2320B	14 Days
Sulfate	1	E300.0	28 Days
Hardness, CaCO ₃	1	A2340B	14 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L).

2 To be analyzed for total dissolved metals.

WRMW-1
SBB-87-02

ANALYTICAL SUMMARY REPORT

July 07, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11060342

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn

Energy Laboratories Inc Helena MT received the following 20 samples for Tetra Tech Inc on 6/17/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11060342-001	SPR-Roadfill	06/15/11 8:15	06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11060342-002	SPR-3	06/15/11 9:00	06/17/11	Aqueous	Same As Above
H11060342-003	SPR-D4	06/15/11 10:55	06/17/11	Aqueous	Same As Above
H11060342-004	SPR-18	06/15/11 11:30	06/17/11	Aqueous	Same As Above
H11060342-005	SPR-D2	06/15/11 12:15	06/17/11	Aqueous	Same As Above
H11060342-006	SPR-2	06/15/11 13:10	06/17/11	Aqueous	Same As Above
H11060342-007	SPR-19	06/15/11 13:45	06/17/11	Aqueous	Same As Above
H11060342-008	SPR-5	06/15/11 14:45	06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11060342-009	STA-4	06/15/11 15:00	06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended

ANALYTICAL SUMMARY REPORT

H11060342-010	SPR-10A	06/15/11 15:45 06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11060342-011	MB-Drain	06/15/11 16:10 06/17/11	Aqueous	Same As Above
H11060342-012	SPR-T	06/15/11 17:15 06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11060342-013	STA-3A	06/15/11 17:40 06/17/11	Aqueous	Same As Above
H11060342-014	MINN-DN	06/16/11 10:25 06/17/11	Aqueous	Same As Above
H11060342-015	STA-2	06/16/11 14:30 06/17/11	Aqueous	Same As Above
H11060342-016	Toe Drain	06/16/11 16:50 06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11060342-017	BCD-A	06/16/11 18:05 06/17/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11060342-018	STA-1	06/16/11 19:00 06/17/11	Aqueous	Same As Above
H11060342-019	BS-D	06/16/11 19:45 06/17/11	Aqueous	Same As Above
H11060342-020	DUP-1	06/16/11 6:00 06/17/11	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

This report was prepared by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



CLIENT: Tetra Tech Inc
Project: Beal Mtn
Sample Delivery Group: H11060342

Report Date: 07/07/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-001
Client Sample ID SPR-Roadfill

Report Date: 07/07/11
Collection Date: 06/15/11 08:15
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	8	mg/L		5		A2540 D	06/20/11 11:54 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:03 / eli-b1
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.43	mg/L		0.05		E353.2	06/20/11 11:26 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:47 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.004	mg/L		0.001		E200.8	06/23/11 19:33 / dck
Selenium	0.018	mg/L		0.001		E200.8	06/23/11 19:33 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-002
Client Sample ID SPR-3

Report Date: 07/07/11
Collection Date: 06/15/11 09:00
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:54 / cmm
INORGANICS							
Cyanide, Total	0.018	mg/L		0.005		Kelada mod	06/28/11 13:39 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	06/29/11 15:51 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	2.33	mg/L		0.05		E353.2	06/20/11 12:30 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:51 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/23/11 19:38 / dck
Selenium	0.009	mg/L		0.001		E200.8	06/23/11 19:38 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-003
Client Sample ID SPR-D4

Report Date: 07/07/11
Collection Date: 06/15/11 10:55
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:55 / cmm
INORGANICS							
Cyanide, Total	0.023	mg/L		0.005		Kelada mod	06/28/11 13:48 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	0.012	mg/L		0.005		D2036C	06/29/11 15:53 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.05		E353.2	06/20/11 11:29 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:52 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/23/11 19:42 / dck
Selenium	0.001	mg/L		0.001		E200.8	06/23/11 19:42 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-004
Client Sample ID SPR-18

Report Date: 07/07/11
Collection Date: 06/15/11 11:30
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:55 / cmm
INORGANICS							
Cyanide, Total	0.024	mg/L		0.005		Kelada mod	06/28/11 13:49 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	06/29/11 16:02 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.59	mg/L		0.05		E353.2	06/20/11 11:32 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:53 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/23/11 19:47 / dck
Selenium	0.002	mg/L		0.001		E200.8	06/23/11 19:47 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-005
Client Sample ID SPR-D2

Report Date: 07/07/11
Collection Date: 06/15/11 12:15
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:55 / cmm
INORGANICS							
Cyanide, Total	0.079	mg/L		0.005		Kelada mod	06/28/11 13:51 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	0.035	mg/L		0.005		D2036C	06/29/11 16:04 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.05		E353.2	06/20/11 11:34 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:54 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/23/11 19:51 / dck
Selenium	0.001	mg/L		0.001		E200.8	06/23/11 19:51 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-006
Client Sample ID SPR-2

Report Date: 07/07/11
Collection Date: 06/15/11 13:10
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:56 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/28/11 14:13 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	06/29/11 17:00 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.59	mg/L		0.05		E353.2	06/20/11 11:40 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:56 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/23/11 19:56 / dck
Selenium	0.007	mg/L		0.001		E200.8	06/23/11 19:56 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-007
Client Sample ID SPR-19

Report Date: 07/07/11
Collection Date: 06/15/11 13:45
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:56 / cmm
INORGANICS							
Cyanide, Total	0.117	mg/L		0.005		Kelada mod	06/28/11 14:15 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	0.062	mg/L		0.005		D2036C	06/29/11 16:05 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.92	mg/L		0.05		E353.2	06/20/11 11:42 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:57 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/23/11 20:00 / dck
Selenium	0.007	mg/L		0.001		E200.8	06/23/11 20:00 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-008
Client Sample ID SPR-5

Report Date: 07/07/11
Collection Date: 06/15/11 14:45
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:56 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:37 / eli-b1
Alkalinity, Total as CaCO ₃	52	mg/L		4		A2320 B	06/20/11 20:04 / zeg
Sulfate	1200	mg/L	D	5		E300.0	06/20/11 23:55 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.40	mg/L		0.05		E353.2	06/20/11 11:44 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:58 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/23/11 20:05 / dck
Selenium	0.074	mg/L		0.001		E200.8	06/23/11 20:05 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-009
Client Sample ID STA-4

Report Date: 07/07/11
Collection Date: 06/15/11 15:00
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:56 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:40 / eli-b1
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/20/11 11:45 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 12:59 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.003	mg/L		0.001		E200.8	06/23/11 20:41 / dck
Selenium	0.001	mg/L		0.001		E200.8	06/23/11 20:41 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-010
Client Sample ID SPR-10A

Report Date: 07/07/11
Collection Date: 06/15/11 15:45
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:56 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:43 / eli-b1
Alkalinity, Total as CaCO ₃	110	mg/L		4		A2320 B	06/20/11 20:18 / zeg
Sulfate	230	mg/L		1		E300.0	06/21/11 00:11 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.87	mg/L		0.05		E353.2	06/20/11 11:52 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:00 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.004	mg/L		0.001		E200.8	06/23/11 20:45 / dck
Selenium	0.027	mg/L		0.001		E200.8	06/23/11 20:45 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-011
Client Sample ID MB-Drain

Report Date: 07/07/11
Collection Date: 06/15/11 16:10
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 11:57 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:46 / eli-b1
Alkalinity, Total as CaCO ₃	96	mg/L		4		A2320 B	06/20/11 20:34 / zeg
Sulfate	990	mg/L	D	5		E300.0	06/21/11 00:26 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.45	mg/L		0.05		E353.2	06/20/11 11:54 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:06 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/23/11 20:50 / dck
Selenium	0.030	mg/L		0.001		E200.8	06/23/11 20:50 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-012
Client Sample ID SPR-T

Report Date: 07/07/11
Collection Date: 06/15/11 17:15
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:01 / cmm
INORGANICS							
Cyanide, Total	0.011	mg/L		0.005		Kelada mod	06/28/11 14:17 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	06/29/11 16:07 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.64	mg/L		0.05		E353.2	06/20/11 11:56 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:10 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/23/11 20:54 / dck
Selenium	0.007	mg/L		0.001		E200.8	06/23/11 20:54 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-013
Client Sample ID STA-3A

Report Date: 07/07/11
Collection Date: 06/15/11 17:40
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:01 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:52 / eli-b1
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.05		E353.2	06/20/11 11:58 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:11 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.004	mg/L		0.001		E200.8	06/23/11 20:59 / dck
Selenium	0.010	mg/L		0.001		E200.8	06/23/11 20:59 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-014
Client Sample ID MINN-DN

Report Date: 07/07/11
Collection Date: 06/16/11 10:25
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	8	mg/L		5		A2540 D	06/20/11 12:01 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/28/11 14:19 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	06/29/11 17:00 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/20/11 12:00 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:12 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	06/23/11 21:44 / dck
Selenium	ND	mg/L		0.001		E200.8	06/23/11 21:44 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-015
Client Sample ID STA-2

Report Date: 07/07/11
Collection Date: 06/16/11 14:30
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:01 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 14:58 / eli-b1
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.05		E353.2	06/20/11 12:06 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:14 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.004	mg/L		0.001		E200.8	06/23/11 22:24 / dck
Selenium	0.002	mg/L		0.001		E200.8	06/23/11 22:24 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-016
Client Sample ID Toe Drain

Report Date: 07/07/11
Collection Date: 06/16/11 16:50
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:01 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 15:11 / eli-b1
Alkalinity, Total as CaCO ₃	51	mg/L		4		A2320 B	06/20/11 20:41 / zeg
Sulfate	1200	mg/L	D	5		E300.0	06/21/11 00:41 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.43	mg/L		0.05		E353.2	06/20/11 12:12 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:15 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.009	mg/L		0.001		E200.8	06/23/11 22:28 / dck
Selenium	0.074	mg/L		0.001		E200.8	06/23/11 22:28 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-017
Client Sample ID BCD-A

Report Date: 07/07/11
Collection Date: 06/16/11 18:05
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:07 / cmm
INORGANICS							
Cyanide, Total	0.112	mg/L		0.005		Kelada mod	06/28/11 14:20 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	0.043	mg/L		0.005		D2036C	06/29/11 16:09 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	2.57	mg/L		0.05		E353.2	06/20/11 12:32 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:16 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.010	mg/L		0.001		E200.8	06/23/11 22:33 / dck
Selenium	0.016	mg/L		0.001		E200.8	06/23/11 22:33 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-018
Client Sample ID STA-1

Report Date: 07/07/11
Collection Date: 06/16/11 19:00
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	8	mg/L		5		A2540 D	06/20/11 12:07 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 15:22 / eli-b1
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/20/11 12:16 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:17 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.003	mg/L		0.001		E200.8	06/23/11 22:37 / dck
Selenium	ND	mg/L		0.001		E200.8	06/23/11 22:37 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-019
Client Sample ID BS-D

Report Date: 07/07/11
Collection Date: 06/16/11 19:45
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:07 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/28/11 14:22 / eli-b
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/29/11 17:02 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	06/29/11 17:00 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.05		E353.2	06/20/11 12:18 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:18 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	06/23/11 22:42 / dck
Selenium	ND	mg/L		0.001		E200.8	06/23/11 22:42 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11060342-020
Client Sample ID DUP-1

Report Date: 07/07/11
Collection Date: 06/16/11 06:00
DateReceived: 06/17/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	06/20/11 12:07 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	06/22/11 15:27 / eli-b1
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	06/27/11 08:04 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	06/27/11 07:57 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/20/11 12:19 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	06/22/11 13:20 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.004	mg/L		0.001		E200.8	06/23/11 22:46 / dck
Selenium	0.002	mg/L		0.001		E200.8	06/23/11 22:46 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/11/11

Project: Beal Mtn

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R71994
Sample ID: MBLK	Method Blank					Run: MAN-TECH_110620A			06/20/11 16:39
Alkalinity, Total as CaCO ₃	1	mg/L	0.6						
Sample ID: LCS-06202011	Laboratory Control Sample					Run: MAN-TECH_110620A			06/20/11 16:47
Alkalinity, Total as CaCO ₃	610	mg/L	4.0	102	90	110			
Sample ID: H11060342-008ADUP	Sample Duplicate					Run: MAN-TECH_110620A			06/20/11 20:11
Alkalinity, Total as CaCO ₃	52	mg/L	4.0				0.8	20	
Sample ID: H11060342-010AMS	Sample Matrix Spike					Run: MAN-TECH_110620A			06/20/11 20:27
Alkalinity, Total as CaCO ₃	650	mg/L	4.0	90	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/11/11

Project: Beal Mtn

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D									Batch: 12615
Sample ID: MB-12615	Method Blank								
Solids, Total Suspended TSS @ 105 C	ND	mg/L	1				Run: ACCU-124 (14410200)_110620	06/20/11 11:53	
Sample ID: LCS-12615	Laboratory Control Sample								
Solids, Total Suspended TSS @ 105 C	1910	mg/L	10	96	70	130	Run: ACCU-124 (14410200)_110620	06/20/11 11:54	
Sample ID: H11060342-001ADUP	Sample Duplicate								
Solids, Total Suspended TSS @ 105 C	8.00	mg/L	10				Run: ACCU-124 (14410200)_110620	06/20/11 11:54	5
Sample ID: H11060342-011ADUP	Sample Duplicate								
Solids, Total Suspended TSS @ 105 C	ND	mg/L	10				Run: ACCU-124 (14410200)_110620	06/20/11 12:00	5

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C									Batch: B_55028
Sample ID: MB-55028	Method Blank					Run: SUB-B168039			06/28/11 15:15
Cyanide, Weak Acid Dissociable	ND	mg/L	0.002						
Sample ID: H11060342-019D	Sample Matrix Spike					Run: SUB-B168039			06/28/11 14:24
Cyanide, Weak Acid Dissociable	0.106	mg/L	0.0050	106	80	120			
Sample ID: H11060342-019D	Sample Matrix Spike Duplicate					Run: SUB-B168039			06/28/11 14:26
Cyanide, Weak Acid Dissociable	0.101	mg/L	0.0050	101	80	120	0.0	10	
Sample ID: LCS-55028	Laboratory Control Sample					Run: SUB-B168039			06/28/11 15:14
Cyanide, Weak Acid Dissociable	0.106	mg/L	0.0050	106	90	110			
Method: D2036C									Batch: B_55028
Sample ID: H11060342-002D	Sample Matrix Spike Duplicate					Run: SUB-B168137			06/29/11 16:15
Cyanide, Weak Acid Dissociable	0.116	mg/L	0.0050	116	80	120	0.3	10	
Sample ID: MB-55028	Method Blank					Run: SUB-B168137			06/29/11 14:04
Cyanide, Weak Acid Dissociable	ND	mg/L	0.002						
Sample ID: H11060342-002D	Sample Matrix Spike					Run: SUB-B168137			06/29/11 16:13
Cyanide, Weak Acid Dissociable	0.116	mg/L	0.0050	116	80	120			
Sample ID: LCS-55028	Laboratory Control Sample					Run: SUB-B168137			06/29/11 13:58
Cyanide, Weak Acid Dissociable	0.0987	mg/L	0.0050	99	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110622A		
Sample ID: ICV STD	Initial Calibration Verification Standard								06/22/11 23:20
Copper	0.0509	mg/L	0.010	102	90	110			
Selenium	0.0502	mg/L	0.0050	100	90	110			
Sample ID: ICSA	Interference Check Sample A								06/22/11 23:25
Copper	0.000457	mg/L	0.010						
Selenium	0.000208	mg/L	0.0050						
Sample ID: ICSAB	Interference Check Sample AB								06/22/11 23:29
Copper	0.0210	mg/L	0.010	105	70	130			
Selenium	0.0105	mg/L	0.0050	105	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard								06/23/11 05:52
Copper	0.0506	mg/L	0.010	101	90	110			
Selenium	0.0511	mg/L	0.0050	102	90	110			
Sample ID: ICSA	Interference Check Sample A								06/23/11 05:57
Copper	0.000462	mg/L	0.010						
Selenium	0.000208	mg/L	0.0050						
Sample ID: ICSAB	Interference Check Sample AB								06/23/11 06:01
Copper	0.0206	mg/L	0.010	103	70	130			
Selenium	0.0106	mg/L	0.0050	106	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard								06/23/11 15:57
Copper	0.0508	mg/L	0.010	102	90	110			
Selenium	0.0495	mg/L	0.0050	99	90	110			
Sample ID: ICSA	Interference Check Sample A								06/23/11 16:01
Copper	0.000381	mg/L	0.010						
Selenium	0.000230	mg/L	0.0050						
Sample ID: ICSAB	Interference Check Sample AB								06/23/11 16:06
Copper	0.0198	mg/L	0.010	99	70	130			
Selenium	0.00970	mg/L	0.0050	97	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard								06/24/11 06:10
Copper	0.0510	mg/L	0.010	102	90	110			
Selenium	0.0499	mg/L	0.0050	100	90	110			
Sample ID: ICSA	Interference Check Sample A								06/24/11 06:14
Copper	0.000443	mg/L	0.010						
Selenium	0.000249	mg/L	0.0050						
Sample ID: ICSAB	Interference Check Sample AB								06/24/11 06:19
Copper	0.0201	mg/L	0.010	100	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110622A		
Sample ID: ICSAB	Interference Check Sample AB						06/24/11 06:19		
Selenium	0.00967	mg/L	0.0050	97	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard						06/24/11 12:34		
Copper	0.0513	mg/L	0.010	103	90	110			
Selenium	0.0502	mg/L	0.0050	100	90	110			
Sample ID: ICSA	Interference Check Sample A						06/24/11 12:41		
Copper	0.000413	mg/L	0.010						
Selenium	0.000180	mg/L	0.0050						
Sample ID: ICSAB	Interference Check Sample AB						06/24/11 12:46		
Copper	0.0198	mg/L	0.010	99	70	130			
Selenium	0.00986	mg/L	0.0050	99	70	130			
Sample ID: ICV STD	Initial Calibration Verification Standard						06/25/11 01:24		
Copper	0.0506	mg/L	0.010	101	90	110			
Selenium	0.0511	mg/L	0.0050	102	90	110			
Sample ID: ICSA	Interference Check Sample A						06/25/11 01:29		
Copper	0.000429	mg/L	0.010						
Selenium	0.000197	mg/L	0.0050						
Sample ID: ICSAB	Interference Check Sample AB						06/25/11 01:34		
Copper	0.0199	mg/L	0.010	100	70	130			
Selenium	0.00969	mg/L	0.0050	97	70	130			
Method: E200.8							Batch: 12609		
Sample ID: MB-12609	Method Blank						Run: ICPMS204-B_110622A		
Copper	ND	mg/L	0.0004						06/23/11 13:11
Selenium	ND	mg/L	0.0002						
Sample ID: LCS-12609	Laboratory Control Sample						Run: ICPMS204-B_110622A		
Copper	0.490	mg/L	0.010	98	85	115			06/23/11 13:16
Selenium	0.528	mg/L	0.0050	106	85	115			
Sample ID: H11060328-007CMS3	Sample Matrix Spike						Run: ICPMS204-B_110622A		
Copper	0.979	mg/L	0.010	97	70	130			06/23/11 14:01
Selenium	1.03	mg/L	0.0050	102	70	130			
Sample ID: H11060328-007CMSD3	Sample Matrix Spike Duplicate						Run: ICPMS204-B_110622A		
Copper	0.975	mg/L	0.010	96	70	130	0.4	20	06/23/11 14:05
Selenium	1.06	mg/L	0.0050	105	70	130	2.9	20	
Method: E200.8							Batch: 12619		

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: 12619
Sample ID: MB-12619	Method Blank								Run: ICPMS204-B_110622A 06/23/11 21:26
Copper	ND	mg/L	0.0004						
Selenium	ND	mg/L	0.0002						
Sample ID: LCS-12619	Laboratory Control Sample								Run: ICPMS204-B_110622A 06/23/11 21:30
Copper	0.488	mg/L	0.010	98	85	115			
Selenium	0.490	mg/L	0.0050	98	85	115			
Sample ID: H11060342-014BMS3	Sample Matrix Spike								Run: ICPMS204-B_110622A 06/23/11 21:48
Copper	0.478	mg/L	0.010	95	70	130			
Selenium	0.477	mg/L	0.0050	95	70	130			
Sample ID: H11060342-014BMDS3	Sample Matrix Spike Duplicate								Run: ICPMS204-B_110622A 06/23/11 21:52
Copper	0.474	mg/L	0.010	94	70	130	1.0	20	
Selenium	0.464	mg/L	0.0050	93	70	130	2.8	20	
Method: E200.8									Batch: R72108
Sample ID: ICB	Method Blank								Run: ICPMS204-B_110622A 06/23/11 06:28
Copper	ND	mg/L	3E-05						
Selenium	ND	mg/L	4E-05						
Sample ID: LFB	Laboratory Fortified Blank								Run: ICPMS204-B_110622A 06/23/11 06:33
Copper	0.0498	mg/L	0.010	100	85	115			
Selenium	0.0484	mg/L	0.0050	97	85	115			
Sample ID: H11060332-007BMS	Sample Matrix Spike								Run: ICPMS204-B_110622A 06/23/11 18:43
Copper	0.0499	mg/L	0.010	98	70	130			
Selenium	0.0492	mg/L	0.0050	96	70	130			
Sample ID: H11060332-007BMDS	Sample Matrix Spike Duplicate								Run: ICPMS204-B_110622A 06/23/11 18:47
Copper	0.0498	mg/L	0.010	97	70	130	0.2	20	
Selenium	0.0475	mg/L	0.0050	93	70	130	3.5	20	
Sample ID: H11060342-008BMS	Sample Matrix Spike								Run: ICPMS204-B_110622A 06/23/11 20:27
Copper	0.0494	mg/L	0.010	96	70	130			
Selenium	0.117	mg/L	0.0050	87	70	130			
Sample ID: H11060342-008BMDS	Sample Matrix Spike Duplicate								Run: ICPMS204-B_110622A 06/23/11 20:32
Copper	0.0500	mg/L	0.010	97	70	130	1.2	20	
Selenium	0.119	mg/L	0.0050	91	70	130	1.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0							Analytical Run: IC101-H_110620A		
Sample ID: ICV062011-12	Initial Calibration Verification Standard								06/20/11 14:55
Sulfate	200	mg/L	1.0	102	90	110			
Sample ID: CCV062011-45	Continuing Calibration Verification Standard								06/20/11 23:09
Sulfate	410	mg/L	1.0	103	90	110			
Method: E300.0							Batch: R72019		
Sample ID: ICB062011-13	Method Blank								06/20/11 15:11
Sulfate	ND	mg/L	0.5			Run: IC101-H_110620A			
Sample ID: LFB062011-14	Laboratory Fortified Blank								06/20/11 15:26
Sulfate	210	mg/L	1.1	104	90	110			
Sample ID: LFB062011-14	Laboratory Fortified Blank								06/20/11 15:42
Sulfate	200	mg/L	1.1	101	90	110			
Sample ID: H11060346-003AMS	Sample Matrix Spike								06/21/11 01:43
Sulfate	440	mg/L	1.1	116	90	110			S
Sample ID: H11060346-003AMSD	Sample Matrix Spike Duplicate								06/21/11 01:58
Sulfate	460	mg/L	1.1	124	90	110	3.7	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1							Analytical Run: FIA203-HE_110622A		
Sample ID: ICV	Initial Calibration Verification Standard								06/22/11 11:31
Nitrogen, Ammonia as N	1.02	mg/L	0.10	102	90	110			
Sample ID: ICB	Initial Calibration Blank, Instrument Blank								06/22/11 11:36
Nitrogen, Ammonia as N	-0.0414	mg/L	0.10		0	0			
Method: E350.1							Batch: R72064		
Sample ID: LCS	Laboratory Control Sample								06/22/11 11:32
Nitrogen, Ammonia as N	16.5	mg/L	0.50	105	90	110			
Sample ID: LFB	Laboratory Fortified Blank								06/22/11 11:33
Nitrogen, Ammonia as N	1.00	mg/L	0.10	101	90	110			
Sample ID: MBLK	Method Blank								06/22/11 11:54
Nitrogen, Ammonia as N	ND	mg/L	0.002						
Sample ID: H11060342-001CMS	Sample Matrix Spike								06/22/11 12:49
Nitrogen, Ammonia as N	0.990	mg/L	0.10	101	80	120			
Sample ID: H11060342-001CMSD	Sample Matrix Spike Duplicate								06/22/11 12:50
Nitrogen, Ammonia as N	0.969	mg/L	0.10	99	80	120	2.1	10	
Sample ID: H11060342-011CMS	Sample Matrix Spike								06/22/11 13:08
Nitrogen, Ammonia as N	0.893	mg/L	0.10	91	80	120			
Sample ID: H11060342-011CMSD	Sample Matrix Spike Duplicate								06/22/11 13:09
Nitrogen, Ammonia as N	0.884	mg/L	0.10	90	80	120	1.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2					Analytical Run: NUTRIENTS_110620A				
Sample ID: ICV-1	Initial Calibration Verification Standard								06/20/11 10:08
Nitrogen, Nitrate+Nitrite as N	1.09	mg/L	0.050	109	90	110			
Sample ID: ICB	Initial Calibration Blank, Instrument Blank								06/20/11 10:15
Nitrogen, Nitrate+Nitrite as N	1.01	mg/L	0.050		0	0			
Sample ID: CCV-33	Continuing Calibration Verification Standard								06/20/11 11:12
Nitrogen, Nitrate+Nitrite as N	0.520	mg/L	0.050	104	90	110			
Sample ID: CCV-46	Continuing Calibration Verification Standard								06/20/11 11:38
Nitrogen, Nitrate+Nitrite as N	0.500	mg/L	0.050	100	90	110			
Sample ID: CCV-59	Continuing Calibration Verification Standard								06/20/11 12:04
Nitrogen, Nitrate+Nitrite as N	0.520	mg/L	0.050	104	90	110			
Method: E353.2					Batch: A2011-06-20_5_NO3_01				
Sample ID: LCS-2	Laboratory Control Sample								06/20/11 10:10
Nitrogen, Nitrate+Nitrite as N	25.5	mg/L	0.20	105	90	110			
Sample ID: LFB-3	Laboratory Fortified Blank								06/20/11 10:12
Nitrogen, Nitrate+Nitrite as N	1.04	mg/L	0.050	104	90	110			
Sample ID: MBLK-7	Method Blank								06/20/11 10:19
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.006						
Sample ID: H11060332-006DMS	Sample Matrix Spike								06/20/11 11:18
Nitrogen, Nitrate+Nitrite as N	0.990	mg/L	0.050	99	90	110			
Sample ID: H11060332-006DMSD	Sample Matrix Spike Duplicate								06/20/11 11:20
Nitrogen, Nitrate+Nitrite as N	1.00	mg/L	0.050	100	90	110	1.0	20	
Sample ID: H11060342-009CMS	Sample Matrix Spike								06/20/11 11:48
Nitrogen, Nitrate+Nitrite as N	1.00	mg/L	0.050	100	90	110			
Sample ID: H11060342-009CMSD	Sample Matrix Spike Duplicate								06/20/11 11:50
Nitrogen, Nitrate+Nitrite as N	1.00	mg/L	0.050	100	90	110	0.0	20	
Sample ID: H11060342-015CMS	Sample Matrix Spike								06/20/11 12:08
Nitrogen, Nitrate+Nitrite as N	1.07	mg/L	0.050	101	90	110			
Sample ID: H11060342-015CMSD	Sample Matrix Spike Duplicate								06/20/11 12:10
Nitrogen, Nitrate+Nitrite as N	1.08	mg/L	0.050	102	90	110	0.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Project: Beal Mtn

Report Date: 07/11/11

Work Order: H11060342

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod							Analytical Run: SUB-B167706		
Sample ID: ICV	Initial Calibration Verification Standard								06/22/11 12:52
Cyanide, Total	0.156	mg/L	0.0050	104	90	110			
Method: Kelada mod							Batch: B_R167706		
Sample ID: MB	Method Blank								06/22/11 12:57
Cyanide, Total	ND	mg/L	0.002						
Sample ID: B11062163-005GMS	Sample Matrix Spike								06/22/11 13:46
Cyanide, Total	0.102	mg/L	0.0050	102	90	110			
Sample ID: LFB	Laboratory Fortified Blank								06/22/11 12:55
Cyanide, Total	0.0994	mg/L	0.0050	99	90	110			
Sample ID: B11062163-005GMSD	Sample Matrix Spike Duplicate								06/22/11 13:49
Cyanide, Total	0.101	mg/L	0.0050	101	90	110	1.5	10	
Sample ID: H11060342-016D	Sample Matrix Spike								06/22/11 15:13
Cyanide, Total	0.104	mg/L	0.0050	104	90	110			
Sample ID: H11060342-006D	Sample Matrix Spike Duplicate								06/22/11 14:32
Cyanide, Total	0.126	mg/L	0.0050	111	90	110	4.8	10	S
Sample ID: H11060342-006D	Sample Matrix Spike								06/22/11 14:29
Cyanide, Total	0.120	mg/L	0.0050	105	90	110			
Sample ID: H11060342-016D	Sample Matrix Spike Duplicate								06/22/11 15:16
Cyanide, Total	0.0985	mg/L	0.0050	99	90	110	5.7	10	
Method: Kelada mod							Analytical Run: SUB-B168039		
Sample ID: ICV-1	Initial Calibration Verification Standard								06/28/11 11:35
Cyanide, Total	0.159	mg/L	0.0050	106	90	110			
Method: Kelada mod							Batch: B_55001		
Sample ID: H11060342-019D	Sample Matrix Spike Duplicate								06/28/11 14:26
Cyanide, Total	0.101	mg/L	0.0050	101	90	110	4.1	10	
Sample ID: LCS-55001	Laboratory Control Sample								06/28/11 11:49
Cyanide, Total	0.0998	mg/L	0.0050	100	90	110			
Sample ID: MB-55001	Method Blank								06/28/11 11:53
Cyanide, Total	ND	mg/L	0.002						
Sample ID: H11060342-019D	Sample Matrix Spike								06/28/11 14:24
Cyanide, Total	0.106	mg/L	0.0050	106	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist



H11060342

Login completed by: Wanda Johnson
Reviewed by: BL2000\ablackburn
Reviewed Date: 6/21/2011

Date Received: 6/17/2011

Received by: TLL

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	4.8 °C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

Page 2 of 2

PLEASE PRINT (Provide as much information as possible.)

Company Name:

Tetra Tech

Report Mail Address:

303 Irene Street
Helena MT 59601

Invoice Address:

Same

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/MWTP ☐ Format: _____
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Physicochemical
Total Recoverable Metals
Inorganics
Nutrients

SEE ATTACHED

Standard Turnaround (TAT)

R U S H

Contact ELI prior to
RUSH sample submittal
for charges and
scheduling - See
Instruction Page

Comments:

See Attached
Table 4

Shipped by: 1
Hand Del

Cooler ID(s):

Receipt Temp

4.8 °C

On Ice:

Custody Seal

Intact

Signature

Match

Sample Origin

State: MT

Email:

Phone/Fax:

Purchase Order:

Quote/Bottle Order:

EPA/State Compliance:

Yes ☐ No ☐

Sampler: (Please Print)

Jim Maus

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED	SEE ATTACHED	Standard Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Comments:	Shipped by: 1 Hand Del	Cooler ID(s):	Receipt Temp	On Ice:	Custody Seal	Intact	Signature	Match
1 MB - Drain	6-15-11	1610	4 W	X	X	X	X	X	X	X	X	X	X	X	X	X
2 SPR - T		1715														
3 STA - 3A		1740														
4 M, N - D	6-16-11	1025														
5 STA - 2		1430														
6 Toe Drain		1650														
7 BCD - A		1805														
8 STA - 1		1900														
9 BS - D		1945														
10 Dup - 1	6-16-11	0600														

Relinquished by (print): Jim Maus Date/Time: 6-17-11 1010 Signature: Jim Maus
Relinquished by (print): _____ Date/Time: _____ Signature: _____

Received by (print): _____ Date/Time: _____ Signature: _____
Received by (print): Tracey Date/Time: 6/17/11 10:10 Signature: Tracey

MUST be Signed

Sample Disposal: Return to Client:

Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Beal 2011 Site Wide Monitoring Analytic Summary:

Surface Water 23 samples X 2 events For Table 4

TABLE 4 SURFACE WATER AND SPRING ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L)⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
✓ Total Suspended Solids	5.0	E160.2	7 Days
✓ Alkalinity, total ³	4.0	A2320B	14 Days
Metals⁽²⁾			
✓ Copper	0.001	E200.8	6 Months
✓ Selenium	0.001	E200.8	6 Months
Inorganics			
✓ Cyanide, free	0.2	SM4500 CN F	14 Days
✓ Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
✓ Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
✓ Ammonia (low level)	0.1	SM4500 NH3	28 Days
✓ Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days
✓ Sulfate ³	1.0	E300.0	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L)

2 Surface water and spring parameters will be analyzed for total recoverable metals.

3 Alkalinity and Sulfate to be analyzed only at locations SPR-5, SPR-10A, Toe Drain, and MB-Drain.

ANALYTICAL SUMMARY REPORT

July 25, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11070204

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn

Energy Laboratories Inc Helena MT received the following 2 samples for Tetra Tech Inc on 7/14/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11070204-001	BCD	07/13/11 15:05	07/14/11	Surface Water	Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11070204-002	BCD-Barren	07/13/11 14:45	07/14/11	Surface Water	Same As Above

This report was prepared by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



CLIENT: Tetra Tech Inc
Project: Beal Mtn
Sample Delivery Group: H11070204

Report Date: 07/25/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11070204-001
Client Sample ID BCD

Report Date: 07/25/11
Collection Date: 07/13/11 15:05
DateReceived: 07/14/11
Matrix: Surface Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	07/14/11 12:53 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	07/19/11 14:16 / eli-b
Alkalinity, Total as CaCO ₃	160	mg/L		4		A2320 B	07/14/11 18:17 / zeg
Sulfate	1400	mg/L	D	5		E300.0	07/18/11 23:14 / zeg
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	07/20/11 15:09 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	07/19/11 14:55 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	14.0	mg/L	D	0.1		E353.2	07/15/11 10:12 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	07/18/11 13:52 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	07/18/11 22:01 / sld
Selenium	0.086	mg/L		0.001		E200.8	07/18/11 22:01 / sld

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn
Lab ID: H11070204-002
Client Sample ID BCD-Barren

Report Date: 07/25/11
Collection Date: 07/13/11 14:45
DateReceived: 07/14/11
Matrix: Surface Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	07/14/11 12:54 / cmm
INORGANICS							
Cyanide, Total	0.189	mg/L	D	0.006		Kelada mod	07/19/11 14:18 / eli-b
Alkalinity, Total as CaCO ₃	89	mg/L		4		A2320 B	07/14/11 18:24 / zeg
Sulfate	170	mg/L		1		E300.0	07/18/11 23:26 / zeg
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	07/20/11 15:09 / eli-b
Cyanide, Weak Acid Dissociable	0.038	mg/L		0.005		D2036C	07/20/11 11:22 / eli-b
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	2.72	mg/L		0.05		E353.2	07/15/11 10:45 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	07/18/11 13:56 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.007	mg/L		0.001		E200.8	07/18/11 22:06 / sld
Selenium	0.009	mg/L		0.001		E200.8	07/18/11 22:06 / sld

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R72692
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110714B			07/14/11 17:13
Alkalinity, Total as CaCO ₃		ND	mg/L	2						
Sample ID: LCS-07012011		Laboratory Control Sample					Run: MAN-TECH_110714B			07/14/11 17:21
Alkalinity, Total as CaCO ₃		610	mg/L	4.0	101	90	110			
Sample ID: H11070194-001CDUP		Sample Duplicate					Run: MAN-TECH_110714B			07/14/11 17:35
Alkalinity, Total as CaCO ₃		100	mg/L	4.0				0.4	20	
Sample ID: H11070194-005CMS		Sample Matrix Spike					Run: MAN-TECH_110714B			07/14/11 18:10
Alkalinity, Total as CaCO ₃		180	mg/L	4.0	103	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D										Batch: 12909
Sample ID: MB-12909		Method Blank					Run: ACCU-124 (14410200)_110714			07/14/11 11:06
Solids, Total Suspended TSS @ 105 C		ND	mg/L	3						
Sample ID: LCS-12909		Laboratory Control Sample					Run: ACCU-124 (14410200)_110714			07/14/11 11:07
Solids, Total Suspended TSS @ 105 C		1660	mg/L	10	83	70	130			
Sample ID: H11070194-002CDUP		Sample Duplicate					Run: ACCU-124 (14410200)_110714			07/14/11 11:08
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	
Sample ID: H11070202-002BDUP		Sample Duplicate					Run: ACCU-124 (14410200)_110714			07/14/11 12:53
Solids, Total Suspended TSS @ 105 C		122	mg/L	10				11	5	R

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C										Batch: B_55539
Sample ID: B11071395-001EMSD										
Sample Matrix Spike Duplicate						Run: SUB-B169257				07/20/11 14:03
Cyanide, Weak Acid Dissociable		0.123	mg/L	0.0050	113	80	120	0.6	10	
Sample ID: LCS-55539										
Laboratory Control Sample						Run: SUB-B169257				07/20/11 11:06
Cyanide, Weak Acid Dissociable		0.104	mg/L	0.0050	104	90	110			
Sample ID: MB-55539										
Method Blank						Run: SUB-B169257				07/20/11 11:08
Cyanide, Weak Acid Dissociable		ND	mg/L	0.002						
Sample ID: B11071395-001EMS										
Sample Matrix Spike						Run: SUB-B169257				07/20/11 14:01
Cyanide, Weak Acid Dissociable		0.123	mg/L	0.0050	114	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110718A		
Sample ID: ICV STD	2	Initial Calibration Verification Standard								07/18/11 10:57
Copper		0.0512	mg/L	0.010	102	90	110			
Selenium		0.0515	mg/L	0.0050	103	90	110			
Sample ID: ICSA	2	Interference Check Sample A								07/18/11 11:02
Copper		0.000504	mg/L	0.010						
Selenium		0.000198	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								07/18/11 11:07
Copper		0.0210	mg/L	0.010	105	70	130			
Selenium		0.0106	mg/L	0.0050	106	70	130			
Sample ID: ICV STD	2	Initial Calibration Verification Standard								07/18/11 15:53
Copper		0.0516	mg/L	0.010	103	90	110			
Selenium		0.0525	mg/L	0.0050	105	90	110			
Sample ID: ICSA	2	Interference Check Sample A								07/18/11 15:57
Copper		0.000484	mg/L	0.010						
Selenium		0.000182	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								07/18/11 16:02
Copper		0.0209	mg/L	0.010	105	70	130			
Selenium		0.0103	mg/L	0.0050	103	70	130			
Method: E200.8								Batch: R72750		
Sample ID: ICB	2	Method Blank								Run: ICPMS204-B_110718A 07/18/11 12:56
Copper		ND	mg/L	3E-05						
Selenium		ND	mg/L	4E-05						
Sample ID: LFB	2	Laboratory Fortified Blank								Run: ICPMS204-B_110718A 07/18/11 13:01
Copper		0.0467	mg/L	0.010	93	85	115			
Selenium		0.0478	mg/L	0.0050	96	85	115			
Sample ID: H11070204-002BMS	2	Sample Matrix Spike								Run: ICPMS204-B_110718A 07/18/11 22:11
Copper		0.0527	mg/L	0.010	91	70	130			
Selenium		0.0581	mg/L	0.0050	98	70	130			
Sample ID: H11070204-002BMSD	2	Sample Matrix Spike Duplicate								Run: ICPMS204-B_110718A 07/18/11 22:15
Copper		0.0540	mg/L	0.010	93	70	130	2.3	20	
Selenium		0.0586	mg/L	0.0050	99	70	130	0.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC102-H_110718A		
Sample ID: ICV071811-12	Initial Calibration Verification Standard									07/18/11 17:38
Sulfate		420	mg/L	1.0	104	90	110			
Sample ID: CCV071811-30	Continuing Calibration Verification Standard									07/18/11 21:18
Sulfate		410	mg/L	1.0	102	90	110			
Method: E300.0								Batch: R72751		
Sample ID: ICB071811-13	Method Blank					Run: IC102-H_110718A			07/18/11 17:49	
Sulfate		ND	mg/L	0.02						
Sample ID: LFB071811-14	Laboratory Fortified Blank					Run: IC102-H_110718A			07/18/11 18:01	
Sulfate		190	mg/L	1.1	97	90	110			
Sample ID: LFB071811-14	Laboratory Fortified Blank					Run: IC102-H_110718A			07/18/11 18:12	
Sulfate		190	mg/L	1.1	97	90	110			
Sample ID: H11070194-003CMS	Sample Matrix Spike					Run: IC102-H_110718A			07/18/11 22:28	
Sulfate		210	mg/L	1.1	100	90	110			
Sample ID: H11070194-003CMSD	Sample Matrix Spike Duplicate					Run: IC102-H_110718A			07/18/11 22:39	
Sulfate		210	mg/L	1.1	101	90	110	1.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: FIA203-HE_110718C		
Sample ID: ICV		Initial Calibration Verification Standard							07/18/11 13:14	
Nitrogen, Ammonia as N		1.06	mg/L	0.10	106	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank							07/18/11 13:19	
Nitrogen, Ammonia as N		-0.0174	mg/L	0.10		0	0			
Method: E350.1								Batch: R72737		
Sample ID: LCS		Laboratory Control Sample				Run: FIA203-HE_110718C			07/18/11 13:15	
Nitrogen, Ammonia as N		16.8	mg/L	0.50	107	0	0	S		
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-HE_110718C			07/18/11 13:16	
Nitrogen, Ammonia as N		0.966	mg/L	0.10	97	90	110			
Sample ID: MBLK		Method Blank				Run: FIA203-HE_110718C			07/18/11 13:20	
Nitrogen, Ammonia as N		ND	mg/L	0.002						
Sample ID: H11070204-002CMS		Sample Matrix Spike				Run: FIA203-HE_110718C			07/18/11 13:57	
Nitrogen, Ammonia as N		0.844	mg/L	0.10	86	80	120			
Sample ID: H11070204-002CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110718C			07/18/11 13:58	
Nitrogen, Ammonia as N		0.843	mg/L	0.10	86	80	120	0.2	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-HE_110715A		
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		1.03	mg/L	0.050	103	90	110			07/15/11 09:19
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrate+Nitrite as N		-0.00231	mg/L	0.050		0	0			07/15/11 09:25
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.474	mg/L	0.050	95	90	110			07/15/11 10:01
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.476	mg/L	0.050	95	90	110			07/15/11 10:34
Method: E353.2										Batch: R72699
Sample ID: LCS	Laboratory Control Sample					Run: FIA203-HE_110715A			07/15/11 09:20	
Nitrogen, Nitrate+Nitrite as N		25.5	mg/L	0.20	105	90	110			
Sample ID: LFB	Laboratory Fortified Blank					Run: FIA203-HE_110715A			07/15/11 09:22	
Nitrogen, Nitrate+Nitrite as N		0.980	mg/L	0.050	98	90	110			
Sample ID: MBLK	Method Blank					Run: FIA203-HE_110715A			07/15/11 09:26	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.0009						
Sample ID: H11070203-003BMS	Sample Matrix Spike					Run: FIA203-HE_110715A			07/15/11 10:06	
Nitrogen, Nitrate+Nitrite as N		0.905	mg/L	0.050	91	90	110			
Sample ID: H11070203-003BMSD	Sample Matrix Spike Duplicate					Run: FIA203-HE_110715A			07/15/11 10:07	
Nitrogen, Nitrate+Nitrite as N		0.923	mg/L	0.050	92	90	110	1.9	20	
Sample ID: H11070211-007DMS	Sample Matrix Spike					Run: FIA203-HE_110715A			07/15/11 10:37	
Nitrogen, Nitrate+Nitrite as N		0.914	mg/L	0.050	89	90	110			S
Sample ID: H11070211-007DMSD	Sample Matrix Spike Duplicate					Run: FIA203-HE_110715A			07/15/11 10:38	
Nitrogen, Nitrate+Nitrite as N		0.905	mg/L	0.050	89	90	110	0.9	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 07/25/11

Project: Beal Mtn

Work Order: H11070204

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod								Analytical Run: SUB-B169179		
Sample ID: ICV-1		Initial Calibration Verification Standard								07/19/11 13:32
Cyanide, Total		0.162	mg/L	0.0050	108	90	110			
Method: Kelada mod								Batch: B_55510		
Sample ID: LCS-55510		Laboratory Control Sample								07/19/11 13:39
Cyanide, Total		0.0947	mg/L	0.0050	95	90	110			
Sample ID: MB-55510		Method Blank								07/19/11 13:41
Cyanide, Total		ND	mg/L	0.002						
Sample ID: B11071121-004DMS		Sample Matrix Spike								07/19/11 13:45
Cyanide, Total		0.119	mg/L	0.0050	116	90	110			S
Sample ID: B11071121-004DMSD		Sample Matrix Spike Duplicate								07/19/11 13:47
Cyanide, Total		0.112	mg/L	0.0050	109	90	110	6.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist



H11070204

Login completed by: Tracy L. Lorash

Date Received: 7/14/2011

Reviewed by: BL2000\sdull

Received by: TLL

Reviewed Date: 7/15/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	4.3 °C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

Page 1 of 1

PLEASE PRINT (Provide as much information as possible.)

Company Name: Tetra Tech	Project Name, PWS, Permit, Etc. Beal Mountain Mine	Sample Origin State: MT	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: 303 Irene Street Helena, MT 59601	Contact Name: Jim Mans Phone/Fax: 443-5210	Email: james.mans@tetra tech.com	Sampler: (Please Print) Jim Mans
Invoice Address: Same	Invoice Contact & Phone: Same	Purchase Order:	Quote/Bottle Order: 7714

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: _____
☐ Other: _____
☐ EDD/EDT (Electronic Data)
 Format: _____
☐ LEVEL IV
☐ NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED				Standard Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Comments:	Shipped by:	Cooler ID(s):	Receipt Temp	On Ice:	Custody Seal On Bottle On Cooler	Intact	Signature Match
				Physiochemical	Total Recoverable Metals	Inorganics	Nutrients										
1 BCD	7-13-11	1505	HW	X	X	X	X	SEE ATTACHED	RUSH	See Attached Table 4	Hand del	Y	4.3 °C	Y	Y	Y	Y
2 BCD-Barren	7-13-11	1445	HW	X	X	X	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Custody Record MUST be Signed	Relinquished by (print): Jim Mans	Date/Time: 7/14/11 1109	Signature: <i>[Signature]</i>
	Relinquished by (print):	Date/Time:	Signature:
	Received by (print):	Date/Time:	Signature:
	Received by Laboratory: Nancy Lora	Date/Time: 7/14/11 11:09	Signature: <i>[Signature]</i>

Sample Disposal: _____ Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Beal 2011 Site Wide Monitoring Analytic Summary:

Surface Water 23 samples X 2 events For Table 4

TABLE 4 SURFACE WATER AND SPRING ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
Total Suspended Solids	5.0	E160.2	7 Days
Alkalinity, total ³	4.0	A2320B	14 Days
Metals⁽²⁾			
Copper	0.001	E200.8	6 Months
Selenium	0.001	E200.8	6 Months
Inorganics			
Cyanide, free	0.2	SM4500 CN F	14 Days
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days
Sulfate ³	1.0	E300.0	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L)

2 Surface water and spring parameters will be analyzed for total recoverable metals.

3 Alkalinity and Sulfate to be analyzed only at locations SPR-5, SPR-10A, Toe Drain, and MB-Drain.

ANALYTICAL SUMMARY REPORT

September 29, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11090277

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn Mine

Energy Laboratories Inc Helena MT received the following 21 samples for Tetra Tech Inc on 9/16/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11090277-001	STA-1	09/12/11 11:30	09/16/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
H11090277-002	BS-D	09/12/11 12:45	09/16/11	Aqueous	Same As Above
H11090277-003	STA-2	09/12/11 14:00	09/16/11	Aqueous	Same As Above
H11090277-004	STA-3A	09/12/11 14:45	09/16/11	Aqueous	Same As Above
H11090277-005	SPR-T	09/12/11 15:45	09/16/11	Aqueous	Same As Above
H11090277-006	SPR-3	09/12/11 16:30	09/16/11	Aqueous	Same As Above
H11090277-007	SPR-D4	09/12/11 17:10	09/16/11	Aqueous	Same As Above
H11090277-008	MINN-DN	09/12/11 17:50	09/16/11	Aqueous	Same As Above
H11090277-009	SPR-10A	09/15/11 9:50	09/16/11	Aqueous	Same As Above
H11090277-010	DUP-1	09/12/11 6:00	09/16/11	Aqueous	Same As Above
H11090277-011	STA-4	09/14/11 9:15	09/16/11	Aqueous	Same As Above
H11090277-012	MB-Drain	09/14/11 10:05	09/16/11	Aqueous	Same As Above
H11090277-013	BCD-Barren	09/14/11 10:35	09/16/11	Aqueous	Same As Above
H11090277-014	BCD	09/14/11 11:05	09/16/11	Aqueous	Same As Above
H11090277-015	SPR-18	09/14/11 12:20	09/16/11	Aqueous	Same As Above
H11090277-016	SPR-D2	09/14/11 13:00	09/16/11	Aqueous	Same As Above
H11090277-017	SPR-2	09/14/11 13:45	09/16/11	Aqueous	Same As Above
H11090277-018	BCD-A	09/14/11 14:00	09/16/11	Aqueous	Same As Above
H11090277-019	SPR-19	09/14/11 14:50	09/16/11	Aqueous	Same As Above
H11090277-020	SPR-5	09/15/11 9:35	09/16/11	Aqueous	Same As Above
H11090277-021	SPR-Roadfill	09/12/11 16:00	09/16/11	Aqueous	Same As Above



ANALYTICAL SUMMARY REPORT

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise reported.

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



CLIENT: Tetra Tech Inc
Project: Beal Mtn Mine
Sample Delivery Group: H11090277

Report Date: 09/29/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-001
Client Sample ID STA-1

Report Date: 09/29/11
Collection Date: 09/12/11 11:30
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:11 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 12:18 / eli-b1
Alkalinity, Total as CaCO ₃	120	mg/L		4		A2320 B	09/20/11 03:56 / zeg
Sulfate	22	mg/L		1		E300.0	09/22/11 22:56 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/11 09:46 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:26 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 20:07 / dck
Selenium	ND	mg/L		0.001		E200.8	09/20/11 20:07 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-002
Client Sample ID BS-D

Report Date: 09/29/11
Collection Date: 09/12/11 12:45
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:11 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/26/11 12:02 / eli-b
Alkalinity, Total as CaCO ₃	150	mg/L		4		A2320 B	09/20/11 04:04 / zeg
Sulfate	6	mg/L		1		E300.0	09/22/11 23:37 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/26/11 15:15 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/11 09:48 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:27 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 20:11 / dck
Selenium	ND	mg/L		0.001		E200.8	09/20/11 20:11 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-003
Client Sample ID STA-2

Report Date: 09/29/11
Collection Date: 09/12/11 14:00
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:12 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 12:24 / eli-b1
Alkalinity, Total as CaCO ₃	63	mg/L		4		A2320 B	09/20/11 04:11 / zeg
Sulfate	93	mg/L		1		E300.0	09/22/11 23:51 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.25	mg/L		0.05		E353.2	09/20/11 09:49 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:28 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	09/20/11 20:16 / dck
Selenium	0.003	mg/L		0.001		E200.8	09/20/11 20:16 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-004
Client Sample ID STA-3A

Report Date: 09/29/11
Collection Date: 09/12/11 14:45
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:12 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/26/11 12:10 / eli-b
Alkalinity, Total as CaCO ₃	72	mg/L		4		A2320 B	09/20/11 04:25 / zeg
Sulfate	190	mg/L		1		E300.0	09/23/11 00:04 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/26/11 15:15 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.89	mg/L		0.05		E353.2	09/20/11 09:50 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:30 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/20/11 20:38 / dck
Selenium	0.005	mg/L		0.001		E200.8	09/20/11 20:38 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-005
Client Sample ID SPR-T

Report Date: 09/29/11
Collection Date: 09/12/11 15:45
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:12 / cmm
INORGANICS							
Cyanide, Total	0.010	mg/L		0.005		Kelada mod	09/26/11 12:11 / eli-b
Alkalinity, Total as CaCO ₃	83	mg/L		4		A2320 B	09/20/11 04:32 / zeg
Sulfate	300	mg/L		1		E300.0	09/23/11 00:18 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	ND	mg/L		0.005		D2036C	09/26/11 14:54 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.05	mg/L		0.05		E353.2	09/20/11 09:51 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:36 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 20:43 / dck
Selenium	0.011	mg/L		0.001		E200.8	09/20/11 20:43 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-006
Client Sample ID SPR-3

Report Date: 09/29/11
Collection Date: 09/12/11 16:30
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:13 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/26/11 12:13 / eli-b
Alkalinity, Total as CaCO ₃	35	mg/L		4		A2320 B	09/20/11 04:39 / zeg
Sulfate	46	mg/L		1		E300.0	09/23/11 00:32 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/26/11 15:15 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	4.96	mg/L		0.05		E353.2	09/20/11 10:12 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:37 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/20/11 20:47 / dck
Selenium	0.002	mg/L		0.001		E200.8	09/20/11 20:47 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-007
Client Sample ID SPR-D4

Report Date: 09/29/11
Collection Date: 09/12/11 17:10
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:13 / cmm
INORGANICS							
Cyanide, Total	0.015	mg/L		0.005		Kelada mod	09/26/11 12:15 / eli-b
Alkalinity, Total as CaCO ₃	57	mg/L		4		A2320 B	09/20/11 04:45 / zeg
Sulfate	330	mg/L		1		E300.0	09/23/11 01:12 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.005	mg/L		0.005		D2036C	09/26/11 14:56 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.35	mg/L		0.05		E353.2	09/20/11 09:57 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:40 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 20:51 / dck
Selenium	0.006	mg/L		0.001		E200.8	09/20/11 20:51 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-008
Client Sample ID MINN-DN

Report Date: 09/29/11
Collection Date: 09/12/11 17:50
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:13 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/26/11 12:17 / eli-b
Alkalinity, Total as CaCO ₃	190	mg/L		4		A2320 B	09/20/11 18:25 / cmm
Sulfate	5	mg/L		1		E300.0	09/23/11 01:26 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/26/11 15:15 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/11 10:01 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:42 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 20:56 / dck
Selenium	ND	mg/L		0.001		E200.8	09/20/11 20:56 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-009
Client Sample ID SPR-10A

Report Date: 09/29/11
Collection Date: 09/15/11 09:50
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:14 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 12:32 / eli-b1
Alkalinity, Total as CaCO ₃	140	mg/L		4		A2320 B	09/20/11 18:41 / cmm
Sulfate	390	mg/L		1		E300.0	09/23/11 01:40 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.81	mg/L		0.05		E353.2	09/20/11 10:02 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:43 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	09/20/11 21:13 / dck
Selenium	0.074	mg/L		0.001		E200.8	09/20/11 21:13 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-010
Client Sample ID DUP-1

Report Date: 09/29/11
Collection Date: 09/12/11 06:00
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:14 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/26/11 12:24 / eli-b
Alkalinity, Total as CaCO ₃	72	mg/L		4		A2320 B	09/20/11 18:48 / cmm
Sulfate	190	mg/L		1		E300.0	09/23/11 01:53 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/26/11 15:15 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.89	mg/L		0.05		E353.2	09/20/11 10:03 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:44 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/20/11 21:36 / dck
Selenium	0.005	mg/L		0.001		E200.8	09/20/11 21:36 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-011
Client Sample ID STA-4

Report Date: 09/29/11
Collection Date: 09/14/11 09:15
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:15 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 12:48 / eli-b1
Alkalinity, Total as CaCO ₃	47	mg/L		4		A2320 B	09/20/11 18:55 / cmm
Sulfate	41	mg/L		1		E300.0	09/23/11 02:34 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/11 10:04 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:45 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 21:40 / dck
Selenium	0.001	mg/L		0.001		E200.8	09/20/11 21:40 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-012
Client Sample ID MB-Drain

Report Date: 09/29/11
Collection Date: 09/14/11 10:05
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:15 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 12:56 / eli-b1
Alkalinity, Total as CaCO ₃	120	mg/L		4		A2320 B	09/20/11 19:01 / cmm
Sulfate	740	mg/L	D	2		E300.0	09/23/11 02:48 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.05		E353.2	09/20/11 10:06 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:46 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 21:45 / dck
Selenium	0.015	mg/L		0.001		E200.8	09/20/11 21:45 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-013
Client Sample ID BCD-Barren

Report Date: 09/29/11
Collection Date: 09/14/11 10:35
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:25 / cmm
INORGANICS							
Cyanide, Total	0.33	mg/L	D	0.01		Kelada mod	09/26/11 14:03 / eli-b
Alkalinity, Total as CaCO ₃	110	mg/L		4		A2320 B	09/20/11 19:09 / cmm
Sulfate	200	mg/L		1		E300.0	09/23/11 03:01 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.061	mg/L		0.005		D2036C	09/26/11 14:41 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	6.38	mg/L		0.05		E353.2	09/20/11 10:13 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:47 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.021	mg/L		0.001		E200.8	09/20/11 21:49 / dck
Selenium	0.023	mg/L		0.001		E200.8	09/20/11 21:49 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-014
Client Sample ID BCD

Report Date: 09/29/11
Collection Date: 09/14/11 11:05
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	44	mg/L		5		A2540 D	09/19/11 12:25 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/26/11 12:28 / eli-b
Alkalinity, Total as CaCO ₃	170	mg/L		4		A2320 B	09/20/11 19:16 / cmm
Sulfate	1400	mg/L	D	5		E300.0	09/23/11 03:15 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/26/11 15:15 / eli-b
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	15.6	mg/L	D	0.1		E353.2	09/26/11 12:38 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:49 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.019	mg/L		0.001		E200.8	09/20/11 21:53 / dck
Selenium	0.090	mg/L		0.001		E200.8	09/20/11 21:53 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-015
Client Sample ID SPR-18

Report Date: 09/29/11
Collection Date: 09/14/11 12:20
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	7	mg/L		5		A2540 D	09/19/11 12:25 / cmm
INORGANICS							
Cyanide, Total	0.017	mg/L		0.005		Kelada mod	09/26/11 12:30 / eli-b
Alkalinity, Total as CaCO ₃	95	mg/L		4		A2320 B	09/20/11 19:23 / cmm
Sulfate	22	mg/L		1		E300.0	09/23/11 03:28 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.013	mg/L		0.005		D2036C	09/26/11 14:57 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.35	mg/L		0.05		E353.2	09/20/11 10:15 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:52 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	09/20/11 21:58 / dck
Selenium	0.007	mg/L		0.001		E200.8	09/20/11 21:58 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-016
Client Sample ID SPR-D2

Report Date: 09/29/11
Collection Date: 09/14/11 13:00
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:26 / cmm
INORGANICS							
Cyanide, Total	0.066	mg/L		0.005		Kelada mod	09/26/11 12:31 / eli-b
Alkalinity, Total as CaCO ₃	29	mg/L		4		A2320 B	09/20/11 19:37 / cmm
Sulfate	140	mg/L		1		E300.0	09/23/11 03:42 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.021	mg/L		0.005		D2036C	09/26/11 14:43 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.35	mg/L		0.05		E353.2	09/20/11 10:10 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:54 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/20/11 22:02 / dck
Selenium	0.002	mg/L		0.001		E200.8	09/20/11 22:02 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-017
Client Sample ID SPR-2

Report Date: 09/29/11
Collection Date: 09/14/11 13:45
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	6	mg/L		5		A2540 D	09/19/11 12:26 / cmm
INORGANICS							
Cyanide, Total	0.027	mg/L		0.005		Kelada mod	09/26/11 12:33 / eli-b
Alkalinity, Total as CaCO ₃	120	mg/L		4		A2320 B	09/20/11 19:44 / cmm
Sulfate	170	mg/L		1		E300.0	09/23/11 04:23 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.007	mg/L		0.005		D2036C	09/26/11 14:59 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.89	mg/L		0.05		E353.2	09/20/11 10:19 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:57 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	09/20/11 22:07 / dck
Selenium	0.014	mg/L		0.001		E200.8	09/20/11 22:07 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-018
Client Sample ID BCD-A

Report Date: 09/29/11
Collection Date: 09/14/11 14:00
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:26 / cmm
INORGANICS							
Cyanide, Total	0.173	mg/L		0.005		Kelada mod	09/26/11 12:35 / eli-b
Alkalinity, Total as CaCO ₃	120	mg/L		4		A2320 B	09/20/11 19:51 / cmm
Sulfate	470	mg/L		1		E300.0	09/23/11 04:36 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.034	mg/L		0.005		D2036C	09/26/11 14:45 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	3.47	mg/L		0.05		E353.2	09/20/11 10:37 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:58 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/20/11 22:11 / dck
Selenium	0.008	mg/L		0.001		E200.8	09/20/11 22:11 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-019
Client Sample ID SPR-19

Report Date: 09/29/11
Collection Date: 09/14/11 14:50
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:26 / cmm
INORGANICS							
Cyanide, Total	0.221	mg/L	D	0.006		Kelada mod	09/26/11 14:04 / eli-b
Alkalinity, Total as CaCO ₃	190	mg/L		4		A2320 B	09/20/11 20:15 / cmm
Sulfate	430	mg/L		1		E300.0	09/23/11 05:17 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	0.033	mg/L		0.005		D2036C	09/26/11 14:52 / eli-b
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.84	mg/L		0.05		E353.2	09/20/11 10:21 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 16:59 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L		0.001		E200.8	09/20/11 22:33 / dck
Selenium	0.012	mg/L		0.001		E200.8	09/20/11 22:33 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-020
Client Sample ID SPR-5

Report Date: 09/29/11
Collection Date: 09/15/11 09:35
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:27 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 13:04 / eli-b1
Alkalinity, Total as CaCO ₃	86	mg/L		4		A2320 B	09/20/11 20:29 / cmm
Sulfate	1200	mg/L	D	5		E300.0	09/23/11 05:31 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.70	mg/L		0.05		E353.2	09/20/11 10:22 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:01 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/20/11 22:38 / dck
Selenium	0.044	mg/L		0.001		E200.8	09/20/11 22:38 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090277-021
Client Sample ID SPR-Roadfill

Report Date: 09/29/11
Collection Date: 09/12/11 16:00
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:27 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 13:07 / eli-b1
Alkalinity, Total as CaCO ₃	89	mg/L		4		A2320 B	09/20/11 20:36 / cmm
Sulfate	380	mg/L		1		E300.0	09/23/11 05:44 / zeg
Cyanide, Free	ND	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide. WAD Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.48	mg/L		0.05		E353.2	09/20/11 10:26 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:02 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/20/11 22:42 / dck
Selenium	0.009	mg/L		0.001		E200.8	09/20/11 22:42 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R74519
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110919A			09/19/11 16:59
Alkalinity, Total as CaCO ₃	2	mg/L	0.9							
Sample ID: LCS-09152011		Laboratory Control Sample					Run: MAN-TECH_110919A			09/19/11 17:15
Alkalinity, Total as CaCO ₃	620	mg/L	4.0	103	90	110				
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110919A			09/20/11 01:54
Alkalinity, Total as CaCO ₃	ND	mg/L	2							
Sample ID: LCS-09152011		Laboratory Control Sample					Run: MAN-TECH_110919A			09/20/11 02:02
Alkalinity, Total as CaCO ₃	620	mg/L	4.0	103	90	110				
Sample ID: H11090298-021AMS		Sample Matrix Spike					Run: MAN-TECH_110919A			09/20/11 02:34
Alkalinity, Total as CaCO ₃	610	mg/L	4.0	102	80	120				
Sample ID: H11090298-026ADUP		Sample Duplicate					Run: MAN-TECH_110919A			09/20/11 03:19
Alkalinity, Total as CaCO ₃	860	mg/L	4.0					0.6	10	
Sample ID: H11090277-003ADUP		Sample Duplicate					Run: MAN-TECH_110919A			09/20/11 04:18
Alkalinity, Total as CaCO ₃	62	mg/L	4.0					0.9	10	
Method: A2320 B										Batch: R74554
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110920C			09/20/11 16:54
Alkalinity, Total as CaCO ₃	2	mg/L	2							
Sample ID: LCS 09152011		Laboratory Control Sample					Run: MAN-TECH_110920C			09/20/11 17:02
Alkalinity, Total as CaCO ₃	600	mg/L	4.0	100	90	110				
Sample ID: H11090328-002ADUP		Sample Duplicate					Run: MAN-TECH_110920C			09/20/11 17:49
Alkalinity, Total as CaCO ₃	280	mg/L	4.0					0.0	10	
Sample ID: H11090277-008AMS		Sample Matrix Spike					Run: MAN-TECH_110920C			09/20/11 18:34
Alkalinity, Total as CaCO ₃	730	mg/L	4.0	91	80	120				
Sample ID: H11090277-015ADUP		Sample Duplicate					Run: MAN-TECH_110920C			09/20/11 19:31
Alkalinity, Total as CaCO ₃	100	mg/L	4.0					6.5	10	
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110920C			09/20/11 19:59
Alkalinity, Total as CaCO ₃	ND	mg/L	2							
Sample ID: LCS 09152011		Laboratory Control Sample					Run: MAN-TECH_110920C			09/20/11 20:07
Alkalinity, Total as CaCO ₃	610	mg/L	4.0	101	90	110				
Sample ID: H11090277-019AMS		Sample Matrix Spike					Run: MAN-TECH_110920C			09/20/11 20:22
Alkalinity, Total as CaCO ₃	710	mg/L	4.0	87	80	120				
Sample ID: H11090277-021ADUP		Sample Duplicate					Run: MAN-TECH_110920C			09/20/11 20:43
Alkalinity, Total as CaCO ₃	89	mg/L	4.0					0.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 09/29/11

Project: Beal Mtn Mine

Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D										Batch: 13906
Sample ID: MB-13906		Method Blank					Run: ACCU-124 (14410200)_110919			09/19/11 12:08
Solids, Total Suspended TSS @ 105 C		ND	mg/L	3						
Sample ID: LCS-13906		Laboratory Control Sample					Run: ACCU-124 (14410200)_110919			09/19/11 12:08
Solids, Total Suspended TSS @ 105 C		1710	mg/L	10	85	70	130			
Sample ID: H11090268-001ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 12:09
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	
Sample ID: H11090277-003ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 12:12
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	
Method: A2540 D										Batch: 13907
Sample ID: MB-13907		Method Blank					Run: ACCU-124 (14410200)_110919			09/19/11 12:15
Solids, Total Suspended TSS @ 105 C		ND	mg/L	3						
Sample ID: LCS-13907		Laboratory Control Sample					Run: ACCU-124 (14410200)_110919			09/19/11 12:16
Solids, Total Suspended TSS @ 105 C		1800	mg/L	10	90	70	130			
Sample ID: H11090277-013ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 12:25
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	
Sample ID: H11090278-001ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 14:30
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 09/29/11

Project: Beal Mtn Mine

Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C										Batch: B_57335
Sample ID: B11091202-008AMSD										
Sample Matrix Spike Duplicate						Run: SUB-B173149				09/26/11 14:16
Cyanide, Weak Acid Dissociable		0.119	mg/L	0.0050	113	80	120	6.7	10	
Sample ID: LCS-57335										
Laboratory Control Sample						Run: SUB-B173149				09/26/11 14:06
Cyanide, Weak Acid Dissociable		0.102	mg/L	0.0050	102	90	110			
Sample ID: MB-57335										
Method Blank						Run: SUB-B173149				09/26/11 14:08
Cyanide, Weak Acid Dissociable		ND	mg/L	0.003						
Sample ID: B11091202-008AMS										
Sample Matrix Spike						Run: SUB-B173149				09/26/11 14:14
Cyanide, Weak Acid Dissociable		0.111	mg/L	0.0050	105	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110920A		
Sample ID: ICV STD	2	Initial Calibration Verification Standard								09/20/11 10:23
Copper		0.0513	mg/L	0.010	103	90	110			
Selenium		0.0520	mg/L	0.0050	104	90	110			
Sample ID: ICSA	2	Interference Check Sample A								09/20/11 10:27
Copper		0.000422	mg/L	0.010						
Selenium		0.000192	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								09/20/11 10:31
Copper		0.0205	mg/L	0.010	102	70	130			
Selenium		0.0104	mg/L	0.0050	104	70	130			
Sample ID: ICV STD	2	Initial Calibration Verification Standard								09/20/11 16:02
Copper		0.0525	mg/L	0.010	105	90	110			
Selenium		0.0533	mg/L	0.0050	107	90	110			
Sample ID: ICSA	2	Interference Check Sample A								09/20/11 16:06
Copper		0.000449	mg/L	0.010						
Selenium		0.000383	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								09/20/11 16:11
Copper		0.0205	mg/L	0.010	102	70	130			
Selenium		0.0104	mg/L	0.0050	104	70	130			
Sample ID: ICV STD	2	Initial Calibration Verification Standard								09/20/11 23:36
Copper		0.0530	mg/L	0.010	106	90	110			
Selenium		0.0516	mg/L	0.0050	103	90	110			
Sample ID: ICSA	2	Interference Check Sample A								09/20/11 23:40
Copper		0.000433	mg/L	0.010						
Selenium		0.000294	mg/L	0.0050						
Sample ID: ICSAB	2	Interference Check Sample AB								09/20/11 23:44
Copper		0.0203	mg/L	0.010	102	70	130			
Selenium		0.00996	mg/L	0.0050	100	70	130			
Method: E200.8								Batch: 13913		
Sample ID: MB-13913	2	Method Blank								Run: ICPMS204-B_110920A 09/20/11 17:14
Copper		ND	mg/L	0.0004						
Selenium		ND	mg/L	0.0002						
Sample ID: LCS-13913	2	Laboratory Control Sample								Run: ICPMS204-B_110920A 09/20/11 17:18
Copper		0.508	mg/L	0.010	102	85	115			
Selenium		0.518	mg/L	0.0050	104	85	115			
Sample ID: H11090249-002DMS3	2	Sample Matrix Spike								Run: ICPMS204-B_110920A 09/20/11 17:54
Copper		0.561	mg/L	0.010	102	70	130			
Selenium		0.830	mg/L	0.0050	116	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 09/29/11

Project: Beal Mtn Mine

Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 13913
Sample ID: H11090249-002DMSD3	2	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A				09/20/11 17:58
Copper		0.557	mg/L	0.010	101	70	130	0.7	20	
Selenium		0.810	mg/L	0.0050	112	70	130	2.6	20	
Method: E200.8										Batch: R74556
Sample ID: ICB	2	Method Blank				Run: ICPMS204-B_110920A				09/20/11 11:28
Copper		ND	mg/L	3E-05						
Selenium		ND	mg/L	4E-05						
Sample ID: LFB	2	Laboratory Fortified Blank				Run: ICPMS204-B_110920A				09/20/11 11:32
Copper		0.0484	mg/L	0.010	97	85	115			
Selenium		0.0499	mg/L	0.0050	100	85	115			
Sample ID: H11090254-031BMS	2	Sample Matrix Spike				Run: ICPMS204-B_110920A				09/20/11 19:18
Copper		0.0470	mg/L	0.010	94	70	130			
Selenium		0.0531	mg/L	0.0050	105	70	130			
Sample ID: H11090254-031BMSD	2	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A				09/20/11 19:40
Copper		0.0474	mg/L	0.010	94	70	130	0.9	20	
Selenium		0.0531	mg/L	0.0050	105	70	130	0.0	20	
Sample ID: H11090277-008BMS	2	Sample Matrix Spike				Run: ICPMS204-B_110920A				09/20/11 21:00
Copper		0.0471	mg/L	0.010	94	70	130			
Selenium		0.0552	mg/L	0.0050	110	70	130			
Sample ID: H11090277-008BMSD	2	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A				09/20/11 21:05
Copper		0.0477	mg/L	0.010	95	70	130	1.4	20	
Selenium		0.0538	mg/L	0.0050	107	70	130	2.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC102-H_110922A		
Sample ID: ICV092211-12		Initial Calibration Verification Standard							09/22/11 17:30	
Sulfate		420	mg/L	1.0	105	90	110			
Sample ID: CCV092211-30		Continuing Calibration Verification Standard							09/22/11 21:35	
Sulfate		410	mg/L	1.0	103	90	110			
Sample ID: CCV092211-44		Continuing Calibration Verification Standard							09/23/11 00:45	
Sulfate		410	mg/L	1.0	104	90	110			
Sample ID: CCV092211-58		Continuing Calibration Verification Standard							09/23/11 03:56	
Sulfate		410	mg/L	1.0	103	90	110			
Method: E300.0									Batch: R74653	
Sample ID: ICB092211-13		Method Blank			Run: IC102-H_110922A				09/22/11 17:44	
Sulfate		ND	mg/L	0.02						
Sample ID: LFB092211-14		Laboratory Fortified Blank			Run: IC102-H_110922A				09/22/11 17:57	
Sulfate		200	mg/L	1.1	101	90	110			
Sample ID: H11090277-001AMS		Sample Matrix Spike			Run: IC102-H_110922A				09/22/11 23:10	
Sulfate		230	mg/L	1.1	105	90	110			
Sample ID: H11090277-001AMSD		Sample Matrix Spike Duplicate			Run: IC102-H_110922A				09/22/11 23:24	
Sulfate		240	mg/L	1.1	107	90	110	1.4	20	
Sample ID: H11090277-010AMS		Sample Matrix Spike			Run: IC102-H_110922A				09/23/11 02:07	
Sulfate		400	mg/L	1.1	106	90	110			
Sample ID: H11090277-010AMSD		Sample Matrix Spike Duplicate			Run: IC102-H_110922A				09/23/11 02:20	
Sulfate		400	mg/L	1.1	107	90	110	0.2	20	
Sample ID: H11090277-018AMS		Sample Matrix Spike			Run: IC102-H_110922A				09/23/11 04:50	
Sulfate		680	mg/L	1.1	103	90	110			
Sample ID: H11090277-018AMSD		Sample Matrix Spike Duplicate			Run: IC102-H_110922A				09/23/11 05:04	
Sulfate		680	mg/L	1.1	105	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1							Analytical Run: FIA203-HE_110922A			
Sample ID: ICV		Initial Calibration Verification Standard							09/22/11 15:54	
Nitrogen, Ammonia as N		1.10	mg/L	0.10	110	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank							09/22/11 15:59	
Nitrogen, Ammonia as N		-0.0604	mg/L	0.10		0	0			
Method: E350.1							Batch: R74640			
Sample ID: LCS		Laboratory Control Sample				Run: FIA203-HE_110922A			09/22/11 15:55	
Nitrogen, Ammonia as N		15.1	mg/L	0.50	96	90	110			
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-HE_110922A			09/22/11 15:56	
Nitrogen, Ammonia as N		0.963	mg/L	0.10	96	90	110			
Sample ID: MBLK		Method Blank				Run: FIA203-HE_110922A			09/22/11 16:00	
Nitrogen, Ammonia as N		ND	mg/L	0.002						
Sample ID: H11090277-004CMS		Sample Matrix Spike				Run: FIA203-HE_110922A			09/22/11 16:31	
Nitrogen, Ammonia as N		0.852	mg/L	0.10	85	80	120			
Sample ID: H11090277-004CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110922A			09/22/11 16:32	
Nitrogen, Ammonia as N		0.871	mg/L	0.10	87	80	120	2.2	10	
Sample ID: H11090277-006CMS		Sample Matrix Spike				Run: FIA203-HE_110922A			09/22/11 16:38	
Nitrogen, Ammonia as N		0.893	mg/L	0.10	89	80	120			
Sample ID: H11090277-006CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110922A			09/22/11 16:39	
Nitrogen, Ammonia as N		0.873	mg/L	0.10	87	80	120	2.3	10	
Sample ID: H11090277-016CMS		Sample Matrix Spike				Run: FIA203-HE_110922A			09/22/11 16:55	
Nitrogen, Ammonia as N		0.904	mg/L	0.10	90	80	120			
Sample ID: H11090277-016CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110922A			09/22/11 16:56	
Nitrogen, Ammonia as N		0.905	mg/L	0.10	91	80	120	0.2	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-HE_110920A		
Sample ID: ICV		Initial Calibration Verification Standard							09/20/11 09:13	
Nitrogen, Nitrate+Nitrite as N		1.07	mg/L	0.050	107	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank							09/20/11 09:19	
Nitrogen, Nitrate+Nitrite as N		-0.00621	mg/L	0.050		0	0			
Sample ID: CCV		Continuing Calibration Verification Standard							09/20/11 09:38	
Nitrogen, Nitrate+Nitrite as N		0.494	mg/L	0.050	99	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							09/20/11 09:56	
Nitrogen, Nitrate+Nitrite as N		0.491	mg/L	0.050	98	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							09/20/11 10:18	
Nitrogen, Nitrate+Nitrite as N		0.488	mg/L	0.050	98	90	110			
Method: E353.2								Batch: R74531		
Sample ID: LCS		Laboratory Control Sample				Run: FIA203-HE_110920A			09/20/11 09:14	
Nitrogen, Nitrate+Nitrite as N		25.1	mg/L	0.20	104	90	110			
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-HE_110920A			09/20/11 09:15	
Nitrogen, Nitrate+Nitrite as N		1.000	mg/L	0.050	100	90	110			
Sample ID: MBLK		Method Blank				Run: FIA203-HE_110920A			09/20/11 09:20	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.0009						
Sample ID: H11090268-005CMS		Sample Matrix Spike				Run: FIA203-HE_110920A			09/20/11 09:40	
Nitrogen, Nitrate+Nitrite as N		0.965	mg/L	0.050	97	90	110			
Sample ID: H11090268-005CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110920A			09/20/11 09:42	
Nitrogen, Nitrate+Nitrite as N		0.964	mg/L	0.050	96	90	110	0.2	20	
Sample ID: H11090277-007CMS		Sample Matrix Spike				Run: FIA203-HE_110920A			09/20/11 09:58	
Nitrogen, Nitrate+Nitrite as N		1.28	mg/L	0.050	93	90	110			
Sample ID: H11090277-007CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110920A			09/20/11 10:00	
Nitrogen, Nitrate+Nitrite as N		1.30	mg/L	0.050	95	90	110	1.2	20	
Sample ID: H11090277-020CMS		Sample Matrix Spike				Run: FIA203-HE_110920A			09/20/11 10:34	
Nitrogen, Nitrate+Nitrite as N		1.58	mg/L	0.050	88	90	110			S
Sample ID: H11090277-020CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_110920A			09/20/11 10:36	
Nitrogen, Nitrate+Nitrite as N		1.61	mg/L	0.050	91	90	110	79	20	R

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-HE_110926A		
Sample ID: ICV	Initial Calibration Verification Standard									09/26/11 12:29
Nitrogen, Nitrate+Nitrite as N		1.07	mg/L	0.050	107	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard									09/26/11 12:33
Nitrogen, Nitrate+Nitrite as N		0.488	mg/L	0.050	98	90	110			
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									09/26/11 12:36
Nitrogen, Nitrate+Nitrite as N		-0.00651	mg/L	0.050		0	0			
Method: E353.2								Batch: R74705		
Sample ID: LCS	Laboratory Control Sample				Run: FIA203-HE_110926A				09/26/11 12:31	
Nitrogen, Nitrate+Nitrite as N		25.5	mg/L	0.20	105	90	110			
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-HE_110926A				09/26/11 12:32	
Nitrogen, Nitrate+Nitrite as N		0.997	mg/L	0.050	100	90	110			
Sample ID: MBLK	Method Blank				Run: FIA203-HE_110926A				09/26/11 12:37	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.0009						
Sample ID: H11090323-001BMS	Sample Matrix Spike				Run: FIA203-HE_110926A				09/26/11 12:40	
Nitrogen, Nitrate+Nitrite as N		1.20	mg/L	0.050	93	90	110			
Sample ID: H11090323-001BMSD	Sample Matrix Spike Duplicate				Run: FIA203-HE_110926A				09/26/11 12:41	
Nitrogen, Nitrate+Nitrite as N		1.20	mg/L	0.050	94	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 09/29/11
Work Order: H11090277

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod								Analytical Run: SUB-B173081		
Sample ID: ICV	Initial Calibration Verification Standard									09/23/11 10:29
Cyanide, Total		0.106	mg/L	0.0050	106	90	110			
Method: Kelada mod								Batch: B_57252		
Sample ID: H11090277-011D	Sample Matrix Spike Duplicate					Run: SUB-B173081			09/23/11 12:53	
Cyanide, Total		0.106	mg/L	0.0050	106	90	110	6.0	10	
Sample ID: LFB	Laboratory Fortified Blank					Run: SUB-B173081			09/23/11 10:32	
Cyanide, Total		0.100	mg/L	0.0050	100	90	110			
Sample ID: H11090277-011D	Sample Matrix Spike					Run: SUB-B173081			09/23/11 12:51	
Cyanide, Total		0.113	mg/L	0.0050	113	90	110			S
Sample ID: MB	Method Blank					Run: SUB-B173081			09/23/11 10:34	
Cyanide, Total		ND	mg/L	0.002						
Sample ID: B11091720-006FMS	Sample Matrix Spike					Run: SUB-B173081			09/23/11 12:07	
Cyanide, Total		0.0811	mg/L	0.0050	81	90	110			S
Sample ID: B11091720-006FMSD	Sample Matrix Spike Duplicate					Run: SUB-B173081			09/23/11 12:10	
Cyanide, Total		0.0813	mg/L	0.0050	81	90	110	0.2	10	S
Method: Kelada mod								Analytical Run: SUB-B173149		
Sample ID: ICV-1	Initial Calibration Verification Standard									09/26/11 11:44
Cyanide, Total		0.109	mg/L	0.0050	109	90	110			
Method: Kelada mod								Batch: B_57321		
Sample ID: LCS-57321	Laboratory Control Sample					Run: SUB-B173149			09/26/11 11:49	
Cyanide, Total		0.109	mg/L	0.0050	109	90	110			
Sample ID: MB-57321	Method Blank					Run: SUB-B173149			09/26/11 11:51	
Cyanide, Total		ND	mg/L	0.002						
Sample ID: H11090277-002D	Sample Matrix Spike					Run: SUB-B173149			09/26/11 12:04	
Cyanide, Total		0.0934	mg/L	0.0050	93	90	110			
Sample ID: H11090277-002D	Sample Matrix Spike Duplicate					Run: SUB-B173149			09/26/11 12:06	
Cyanide, Total		0.0861	mg/L	0.0050	86	90	110	8.2	10	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist



H11090277

Login completed by: Tracy L. Lorash

Date Received: 9/16/2011

Reviewed by: BL2000\kwiegand

Received by: elm

Reviewed Date: 9/19/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	3.4 °C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

Sample ID BS-D has a collection time of 12:50 on the bottle and 12:45 on the COC. Logged in with the collection time from the COC. Sample ID on the COC is Dup - sample bottle has ID of Dup-1. We received a sample set labeled SPR-Roadfill collected on 9/12/11 @ 1600 that is not on the COC. Emailed Jim Maus. TI 9/16/11. Per email from Jim Maus, The "Dup" on the COC should have read "Dup-1". "SPR-Roadfill" was inadvertently left off the COC. Please analyze BOTH samples for the Table 4 analyte list. TI 9/19/11.



Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: Tetra Tech		Project Name, PWS, Permit, Etc. Beal Mtn Mine		Sample Origin State: MT		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: 303 Irene Street Helena MT 59601		Contact Name: Jim Maws Phone/Fax: 443-5210		Email: james.maws@tetra-tech.com		Sampler: (Please Print) Jim Maws	
Invoice Address: Same		Invoice Contact & Phone: same		Purchase Order:		Quote/Bottle Order: 8345	
Special Report/Formats: <input type="checkbox"/> DW <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments: See Attached Table 4			Shipped by: HPWD Cooler ID(s): 4 Receipt Temp: 3.4 °C On Ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Custody Seal On Bottle <input checked="" type="checkbox"/> Y <input type="checkbox"/> N On Cooler <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Intact <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Signature Match <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED SEE ATTACHED		Standard Turnaround (TAT) R U S H
1 STA-1	9-12-11	1130	4W	Physiochemical Total Recoverable Metals Inorganics Nutrients			Laboratory Use Only H110902977
2 BS-D	9-12-11	1245	4W				
3 STA-2	9-12-11	1400	4W				
4 STA-3A	9-12-11	1445	4W				
5 SPR-7	9-12-11	1545	4W				
6 SPR-3	9-12-11	1630	4W				
7 SPR-D4	9-12-11	1710	4W				
8 MINN-DN	9-12-11	1750	4W				
9 SPR-10A	9-15-11	0950	4W				
10 DWP	9-12-11	0600	4W				
Relinquished by (print): Jim Maws		Date/Time: 9/16/11 1125		Received by (print): Jim Maws		Date/Time: 9/16/11 1125	
Relinquished by (print):		Date/Time:		Received by (print):		Date/Time:	
Sample Disposal: Must be Signed		Return to Client:		Lab Disposal:		Signature:	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.enervlab.com for additional information, downloadable fee schedule, forms, and links.



Chain of Custody and Analytical Request Record

Page 2 of 2

PLEASE PRINT (Provide as much information as possible.)

Company Name: Tetra Tech		Project Name, PWS, Permit, Etc. Beal Mtn Mine		Sample Origin State: MT		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: 303 Irene Street Helena, MT 59601		Contact Name: Jim Mans		Phone/Fax: james.mans@tetra.tech.com		Email: Jim Mans	
Invoice Address: Same		Invoice Contact & Phone: Same		Purchase Order:		Quote/Bottle Order: 8345	
Special Report/Formats: <input type="checkbox"/> DW <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B O DW Air Water Solids/Solids Vegetation Bioassay Other DW - Drinking Water		ANALYSIS REQUESTED Physio Chemical Total Recoverable Inorganics Nutrients	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		MATRIX	
1 STA-4		9/14/11		0915		4W	
2 MB-Drain		9-14-11		1005		4W	
3 BCD-Barred		9-14-11		1035		4W	
4 BCB		9-14-11		1105		4W	
5 SPR-1B		9-14-11		1220		4W	
6 SPR-D2		9-14-11		1300		4W	
7 SPR-2		9-14-11		1345		4W	
8 BCD-A		9-14-11		1400		4W	
9 SPR-19		9-14-11		1450		4W	
10 SPR-5		9-15-11		0935		4W	
Custody Record MUST be Signed		Requisitioned by (print): Jim Mans		Date/Time: 9/16/11 1125		Signature: <i>[Signature]</i>	
Relinquished by (print):		Date/Time:		Signature:		Received by (print):	
Relinquished by (print):		Date/Time:		Signature:		Received by (print):	
Sample Disposal:		Return to Client:		Date/Time:		Signature:	
Sample Disposal:		Return to Client:		Date/Time:		Signature:	

Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Standard Turnaround (TAT)	Comments:
R U S H	SEE ATTACHED	See Attached Table 4
Shipped by: HHWD	Cooler ID(s): Y	Receipt Temp: 3.4 °C
On Ice: Y	Custody Seal On Bottle: Y	On Cooler: Y
Intact: Y	Signature Match: Y	H110902277

Received by Laboratory:	Date/Time:	Signature:
Received by (print):	Date/Time:	Signature:
Received by Laboratory:	Date/Time:	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.enervia.com for additional information, downloadable fee schedule, forms, and links.

Beal 2011 Site Wide Monitoring Analytic Summary:

Surface Water 23 samples X 2 events For Table 4

TABLE 4 SURFACE WATER AND SPRING ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L)⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
Total Suspended Solids	5.0	E160.2	7 Days
Alkalinity, total ³	4.0	A2320B	14 Days
Metals⁽²⁾			
Copper	0.001	E200.8	6 Months
Selenium	0.001	E200.8	6 Months
Inorganics			
Cyanide, free	0.2	SM4500 CN F	14 Days
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days
Sulfate ³	1.0	E300.0	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L)

2 Surface water and spring parameters will be analyzed for total recoverable metals.

3 Alkalinity and Sulfate to be analyzed only at locations SPR-5, SPR-10A, Toe Drain, and MB-Drain.

ANALYTICAL SUMMARY REPORT

October 13, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11090249 Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn Mine

Energy Laboratories Inc Helena MT received the following 3 samples for Tetra Tech Inc on 9/15/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11090249-001	Sump-1	09/14/11 17:20	09/15/11	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Total Manual Distillation Thiocyanate Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Fluoride Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite pH Metals Digestion by EPA 200.2 Digestion, Total P Water Preparation for TDS Phosphorus, Total Solids, Total Dissolved
H11090249-002	Sump-3A	09/14/11 18:10	09/15/11	Aqueous	Same As Above
H11090249-003	Dup-2	09/14/11 6:00	09/15/11	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise reported.

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



CLIENT: Tetra Tech Inc
Project: Beal Mtn Mine
Sample Delivery Group: H11090249

Report Date: 10/13/11

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090249-001
Client Sample ID Sump-1

Report Date: 10/13/11
Collection Date: 09/14/11 17:20
DateReceived: 09/15/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	8.1	s.u.		0.1		A4500-H B	09/16/11 01:43 / zeg
Conductivity	3350	umhos/cm		1		A2510 B	09/16/11 09:41 / cmm
Solids, Total Dissolved TDS @ 180 C	3560	mg/L		10		A2540 C	09/16/11 11:54 / cmm
INORGANICS							
Cyanide, Total	0.33	mg/L	D	0.02		Kelada mod	09/26/11 11:55 / eli-b
Thiocyanate as N	0.094	mg/L		0.048		A4500-CN M	09/22/11 09:30 / eli-b1
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	09/16/11 01:43 / zeg
Chloride	86	mg/L	D	2		E300.0	09/22/11 01:33 / zeg
Sulfate	2200	mg/L	D	10		E300.0	09/22/11 01:33 / zeg
Cyanide, Weak Acid Dissociable	0.18	mg/L	D	0.01		D2036C	09/26/11 14:34 / eli-b
Thiocyanate	0.39	mg/L		0.20		A4500-CN M	09/22/11 09:30 / eli-b1
Fluoride	0.4	mg/L		0.1	4	A4500-F C	09/26/11 15:37 / zeg
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	18.1	mg/L	D	0.2		E353.2	09/19/11 12:51 / reh
Nitrogen, Ammonia as N	7.2	mg/L	D	0.5		E350.1	09/22/11 17:33 / reh
Nitrogen, Nitrite as N	7	mg/L	D	1		E353.2	09/15/11 15:20 / reh
Phosphorus, Total as P	0.05	mg/L		0.01		E365.1	09/30/11 13:28 / reh
METALS, DISSOLVED							
Calcium	560	mg/L		1		E200.7	09/19/11 18:24 / sld
Magnesium	59	mg/L		1		E200.7	09/19/11 18:24 / sld
Potassium	15	mg/L		1		E200.7	09/19/11 18:24 / sld
Sodium	475	mg/L		1		E200.7	09/19/11 18:24 / sld
METALS, TOTAL RECOVERABLE							
Arsenic	0.134	mg/L		0.005		E200.8	09/20/11 17:05 / dck
Barium	0.018	mg/L		0.005		E200.8	09/20/11 17:05 / dck
Cadmium	0.00033	mg/L		0.00008		E200.8	09/20/11 17:05 / dck
Copper	0.03	mg/L		0.01		E200.8	09/20/11 17:05 / dck
Iron	0.75	mg/L		0.03		E200.8	09/20/11 17:05 / dck
Manganese	0.26	mg/L		0.01		E200.8	09/20/11 17:05 / dck
Selenium	0.069	mg/L		0.005		E200.8	09/20/11 17:05 / dck
Silicon	7.5	mg/L		0.1		E200.8	09/20/11 17:05 / dck
Silver	ND	mg/L		0.0005		E200.8	09/20/11 17:05 / dck
Strontium	3.5	mg/L		0.1		E200.8	09/20/11 17:05 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090249-002
Client Sample ID Sump-3A

Report Date: 10/13/11
Collection Date: 09/14/11 18:10
DateReceived: 09/15/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	8.3	s.u.		0.1		A4500-H B	09/16/11 16:04 / zeg
Conductivity	16300	umhos/cm		1		A2510 B	09/18/11 19:25 / cmm
Solids, Total Dissolved TDS @ 180 C	8670	mg/L		10		A2540 C	09/16/11 11:54 / cmm
INORGANICS							
Cyanide, Total	5.5	mg/L	D	0.1		Kelada mod	09/26/11 12:39 / eli-b
Thiocyanate as N	0.15	mg/L		0.048		A4500-CN M	09/22/11 09:30 / eli-b1
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	09/16/11 16:04 / zeg
Chloride	420	mg/L	D	20		E300.0	09/22/11 01:47 / zeg
Sulfate	4600	mg/L	D	100		E300.0	09/22/11 01:47 / zeg
Cyanide, Weak Acid Dissociable	1.58	mg/L	D	0.04		D2036C	09/26/11 14:35 / eli-b
Thiocyanate	0.64	mg/L		0.20		A4500-CN M	09/22/11 09:30 / eli-b1
Fluoride	0.6	mg/L		0.1	4	A4500-F C	09/26/11 15:39 / zeg
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	129	mg/L	D	1		E353.2	09/19/11 12:52 / reh
Nitrogen, Ammonia as N	25	mg/L	D	1		E350.1	09/28/11 10:22 / reh
Nitrogen, Nitrite as N	19	mg/L	D	2		E353.2	09/15/11 15:21 / reh
Phosphorus, Total as P	0.63	mg/L		0.01		E365.1	09/30/11 13:29 / reh
METALS, DISSOLVED							
Calcium	1240	mg/L		1		E200.7	09/19/11 18:28 / sld
Magnesium	32	mg/L		1		E200.7	09/19/11 18:28 / sld
Potassium	30	mg/L		1		E200.7	09/19/11 18:28 / sld
Sodium	1680	mg/L		1		E200.7	09/19/11 18:28 / sld
METALS, TOTAL RECOVERABLE							
Arsenic	0.423	mg/L		0.005		E200.8	09/20/11 17:49 / dck
Barium	0.037	mg/L		0.005		E200.8	09/20/11 17:49 / dck
Cadmium	0.00063	mg/L		0.00008		E200.8	09/20/11 17:49 / dck
Copper	0.05	mg/L		0.01		E200.8	09/20/11 17:49 / dck
Iron	1.89	mg/L		0.03		E200.8	09/20/11 17:49 / dck
Manganese	0.17	mg/L		0.01		E200.8	09/20/11 17:49 / dck
Selenium	0.252	mg/L		0.005		E200.8	09/20/11 17:49 / dck
Silicon	10.4	mg/L		0.1		E200.8	09/20/11 17:49 / dck
Silver	ND	mg/L		0.0005		E200.8	09/20/11 17:49 / dck
Strontium	7.2	mg/L		0.1		E200.8	09/20/11 17:49 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090249-003
Client Sample ID Dup-2

Report Date: 10/13/11
Collection Date: 09/14/11 06:00
DateReceived: 09/15/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	8.4	s.u.		0.1		A4500-H B	09/16/11 16:11 / zeg
Conductivity	12100	umhos/cm		1		A2510 B	09/18/11 19:26 / cmm
Solids, Total Dissolved TDS @ 180 C	8500	mg/L		10		A2540 C	09/16/11 11:54 / cmm
INORGANICS							
Cyanide, Total	5.5	mg/L	D	0.1		Kelada mod	09/26/11 12:41 / eli-b
Thiocyanate as N	0.14	mg/L		0.048		A4500-CN M	09/22/11 09:30 / eli-b1
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	09/16/11 16:11 / zeg
Chloride	430	mg/L	D	20		E300.0	09/22/11 02:28 / zeg
Sulfate	4800	mg/L	D	100		E300.0	09/22/11 19:05 / zeg
Cyanide, Weak Acid Dissociable	2.01	mg/L	D	0.04		D2036C	09/26/11 14:37 / eli-b
Thiocyanate	0.57	mg/L		0.20		A4500-CN M	09/22/11 09:30 / eli-b1
Fluoride	0.6	mg/L		0.1	4	A4500-F C	09/26/11 15:41 / zeg
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	124	mg/L	D	1		E353.2	09/19/11 12:53 / reh
Nitrogen, Ammonia as N	25	mg/L	D	1		E350.1	09/28/11 10:23 / reh
Nitrogen, Nitrite as N	20	mg/L	D	2		E353.2	09/15/11 15:22 / reh
Phosphorus, Total as P	0.66	mg/L		0.01		E365.1	09/30/11 13:30 / reh
METALS, DISSOLVED							
Calcium	1230	mg/L		1		E200.7	09/19/11 18:40 / sld
Magnesium	32	mg/L		1		E200.7	09/19/11 18:40 / sld
Potassium	30	mg/L		1		E200.7	09/19/11 18:40 / sld
Sodium	1690	mg/L		1		E200.7	09/19/11 18:40 / sld
METALS, TOTAL RECOVERABLE							
Arsenic	0.423	mg/L		0.005		E200.8	10/10/11 20:05 / dck
Barium	0.034	mg/L		0.005		E200.8	10/10/11 20:05 / dck
Cadmium	0.00050	mg/L		0.00008		E200.8	10/10/11 20:05 / dck
Copper	0.05	mg/L		0.01		E200.8	10/10/11 20:05 / dck
Iron	1.78	mg/L		0.03		E200.8	10/10/11 20:05 / dck
Manganese	0.16	mg/L		0.01		E200.8	10/10/11 20:05 / dck
Selenium	0.257	mg/L		0.005		E200.8	10/10/11 20:05 / dck
Silicon	11.7	mg/L		0.1		E200.8	10/12/11 02:27 / dck
Silver	ND	mg/L		0.0005		E200.8	10/10/11 20:05 / dck
Strontium	7.2	mg/L		0.1		E200.8	10/12/11 21:36 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R74414
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110915B			09/15/11 16:40
Alkalinity, Total as CaCO ₃		ND	mg/L	2						
Sample ID: LCS-09152011		Laboratory Control Sample					Run: MAN-TECH_110915B			09/15/11 16:47
Alkalinity, Total as CaCO ₃		610	mg/L	4.0	101	90	110			
Sample ID: H11090249-001BMS		Sample Matrix Spike					Run: MAN-TECH_110915B			09/16/11 01:52
Alkalinity, Total as CaCO ₃		730	mg/L	4.0	78	80	120			S
Sample ID: H11090192-001ADUP		Sample Duplicate					Run: MAN-TECH_110915B			09/16/11 02:07
Alkalinity, Total as CaCO ₃		300	mg/L	4.0				2.5	10	
Method: A2320 B										Batch: R74475
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110916B			09/16/11 15:49
Alkalinity, Total as CaCO ₃		ND	mg/L	2						
Sample ID: LCS-09152011		Laboratory Control Sample					Run: MAN-TECH_110916B			09/16/11 15:57
Alkalinity, Total as CaCO ₃		600	mg/L	4.0	100	90	110			
Sample ID: H11090254-001ADUP		Sample Duplicate					Run: MAN-TECH_110916B			09/16/11 16:33
Alkalinity, Total as CaCO ₃		100	mg/L	4.0				1.7	10	
Sample ID: H11090254-004AMS		Sample Matrix Spike					Run: MAN-TECH_110916B			09/16/11 17:03
Alkalinity, Total as CaCO ₃		800	mg/L	4.0	101	80	120			
Sample ID: H11090254-014ADUP		Sample Duplicate					Run: MAN-TECH_110916B			09/16/11 18:17
Alkalinity, Total as CaCO ₃		160	mg/L	4.0				0.2	10	

Qualifiers:

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: COND_110916A		
Sample ID: ICV1_110916A		Initial Calibration Verification Standard							09/16/11 09:15	
Conductivity		1040	umhos/cm	1.0	104	90	110			
Method: A2510 B								Batch: 110916A-COND-PROBE-W		
Sample ID: H11090249-001BDUP		Sample Duplicate					Run: COND_110916A		09/16/11 09:42	
Conductivity		3320	umhos/cm	1.0				0.8	10	
Sample ID: H11090263-001ADUP		Sample Duplicate					Run: COND_110916A		09/16/11 10:29	
Conductivity		488	umhos/cm	1.0				0.2	10	
Method: A2510 B								Analytical Run: COND_110916B		
Sample ID: ICV1_110916A		Initial Calibration Verification Standard							09/18/11 19:25	
Conductivity		25800	umhos/cm	1.0	104	90	110			
Method: A2510 B								Batch: 110916A-COND-PROBE-W		
Sample ID: H11090249-002BDUP		Sample Duplicate					Run: COND_110916B		09/18/11 19:25	
Conductivity		17000	umhos/cm	1.0				4.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: 13877
Sample ID: MB-13877		Method Blank					Run: ACCU-124 (14410200)_110916			09/16/11 11:52
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	3						
Sample ID: LCS-13877		Laboratory Control Sample					Run: ACCU-124 (14410200)_110916			09/16/11 11:52
Solids, Total Dissolved TDS @ 180 C		1990	mg/L	10	100	90	110			
Sample ID: H11090238-001CDUP		Sample Duplicate					Run: ACCU-124 (14410200)_110916			09/16/11 11:53
Solids, Total Dissolved TDS @ 180 C		82.0	mg/L	10				2.4	5	
Sample ID: H11090254-002AMS		Sample Matrix Spike					Run: ACCU-124 (14410200)_110916			09/16/11 11:55
Solids, Total Dissolved TDS @ 180 C		2250	mg/L	10	100	80	120			
Sample ID: H11090254-010ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110916			09/16/11 12:45
Solids, Total Dissolved TDS @ 180 C		600	mg/L	10				4.8	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-CN M								Analytical Run: SUB-B172918		
Sample ID: ICV-R172918	2	Initial Calibration Verification Standard								09/22/11 09:30
Thiocyanate		5.1	mg/L	0.20	101	90	110			
Thiocyanate as N		1.2	mg/L	0.048	102	90	110			
Method: A4500-CN M								Batch: B_R172918		
Sample ID: H11090249-001E	2	Sample Matrix Spike				Run: SUB-B172918			09/22/11 09:30	
Thiocyanate		5.1	mg/L	0.20	95	80	120			
Thiocyanate as N		1.2	mg/L	0.048	95	80	120			
Sample ID: H11090249-001E	2	Sample Matrix Spike Duplicate				Run: SUB-B172918			09/22/11 09:30	
Thiocyanate		5.4	mg/L	0.20	101	80	120	5.5	10	
Thiocyanate as N		1.3	mg/L	0.048	101	80	120	5.5	10	
Sample ID: MB-R172918	2	Method Blank				Run: SUB-B172918			09/22/11 09:30	
Thiocyanate		ND	mg/L	0.04						
Thiocyanate as N		ND	mg/L	0.01						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C								Analytical Run: PH_110926A		
Sample ID: ICV1_110926A		Initial Calibration Verification Standard								09/26/11 15:33
Fluoride		0.745	mg/L	0.10	99	90	110			
Method: A4500-F C								Batch: 110926A-F-ISE-W		
Sample ID: MBLK1_110926A		Method Blank								09/26/11 15:30
Fluoride		0.01	mg/L	0.004						
Sample ID: LFB2_110926A		Laboratory Fortified Blank								09/26/11 15:35
Fluoride		0.471	mg/L	0.10	91	90	110			
Sample ID: H11090252-001AMS		Sample Matrix Spike								09/26/11 15:58
Fluoride		0.698	mg/L	0.10	84	85	115			S
Sample ID: H11090252-001AMSD		Sample Matrix Spike Duplicate								09/26/11 15:58
Fluoride		0.695	mg/L	0.10	83	85	115	0.4	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: MAN-TECH_110915B		
Sample ID: CCV1-2199	Continuing Calibration Verification Standard									09/15/11 16:22
pH		3.94	s.u.	0.10	99	97	103			
Sample ID: ICV-2100	Initial Calibration Verification Standard									09/15/11 16:30
pH		7.01	s.u.	0.10	100	98	102			
Sample ID: CCV-2145	Continuing Calibration Verification Standard									09/16/11 01:23
pH		7.05	s.u.	0.10	101	98	102			
Method: A4500-H B								Batch: R74414		
Sample ID: CCV3-2042	Continuing Calibration Verification Standard									09/15/11 16:28
pH		10.1	s.u.	0.10	101	99	101			
Sample ID: H11090229-023ADUP	Sample Duplicate									09/16/11 00:36
pH		7.86	s.u.	0.10				0.0	3	
Sample ID: H11090192-001ADUP	Sample Duplicate									09/16/11 02:07
pH		8.27	s.u.	0.10				0.0	3	
Method: A4500-H B								Analytical Run: MAN-TECH_110916B		
Sample ID: CCV1-2199	Continuing Calibration Verification Standard									09/16/11 15:31
pH		3.91	s.u.	0.10	98	97	103			
Sample ID: CCV-2145	Continuing Calibration Verification Standard									09/16/11 15:34
pH		7.01	s.u.	0.10	100	98	102			
Sample ID: ICV-2100	Initial Calibration Verification Standard									09/16/11 15:40
pH		6.97	s.u.	0.10	100	98	102			
Method: A4500-H B								Batch: R74475		
Sample ID: CCV3-2042	Continuing Calibration Verification Standard									09/16/11 15:37
pH		10.0	s.u.	0.10	100	99	101			
Sample ID: H11090254-001ADUP	Sample Duplicate									09/16/11 16:33
pH		7.66	s.u.	0.10				0.8	3	
Sample ID: H11090254-014ADUP	Sample Duplicate									09/16/11 18:17
pH		7.90	s.u.	0.10				0.1	3	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C										Batch: B_57335
Sample ID: B11091202-008AMSD										
Sample Matrix Spike Duplicate						Run: SUB-B173149				09/26/11 14:16
Cyanide, Weak Acid Dissociable		0.119	mg/L	0.0050	113	80	120	6.7	10	
Sample ID: LCS-57335										
Laboratory Control Sample						Run: SUB-B173149				09/26/11 14:06
Cyanide, Weak Acid Dissociable		0.102	mg/L	0.0050	102	90	110			
Sample ID: MB-57335										
Method Blank						Run: SUB-B173149				09/26/11 14:08
Cyanide, Weak Acid Dissociable		ND	mg/L	0.003						
Sample ID: B11091202-008AMS										
Sample Matrix Spike						Run: SUB-B173149				09/26/11 14:14
Cyanide, Weak Acid Dissociable		0.111	mg/L	0.0050	105	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP2-HE_110919B		
Sample ID: ICV	4	Initial Calibration Verification Standard							09/19/11 11:42	
Calcium		38.8	mg/L	1.0	97	95	105			
Magnesium		38.4	mg/L	1.0	96	95	105			
Potassium		38.9	mg/L	1.0	97	95	105			
Sodium		39.2	mg/L	1.0	98	95	105			
Sample ID: CCV-1	4	Continuing Calibration Verification Standard							09/19/11 11:46	
Calcium		24.6	mg/L	1.0	98	95	105			
Magnesium		24.2	mg/L	1.0	97	95	105			
Potassium		24.6	mg/L	1.0	98	95	105			
Sodium		24.7	mg/L	1.0	99	95	105			
Sample ID: ICSA	4	Interference Check Sample A							09/19/11 11:57	
Calcium		447	mg/L	1.0	89	80	120			
Magnesium		495	mg/L	1.0	99	80	120			
Potassium		-0.00138	mg/L	1.0		0	0			
Sodium		0.0384	mg/L	1.0		0	0			
Sample ID: ICSAB	4	Interference Check Sample AB							09/19/11 12:01	
Calcium		451	mg/L	1.0	90	80	120			
Magnesium		498	mg/L	1.0	100	80	120			
Potassium		21.0	mg/L	1.0	105	80	120			
Sodium		21.0	mg/L	1.0	105	80	120			
Sample ID: CCV	4	Continuing Calibration Verification Standard							09/19/11 18:06	
Calcium		26.5	mg/L	1.0	106	90	110			
Magnesium		25.3	mg/L	1.0	101	90	110			
Potassium		23.7	mg/L	1.0	95	90	110			
Sodium		23.4	mg/L	1.0	93	90	110			
Method: E200.7								Batch: R74514		
Sample ID: ICB	4	Method Blank				Run: ICP2-HE_110919B			09/19/11 12:08	
Calcium		0.0404	mg/L	1.0						
Magnesium		0.0129	mg/L	1.0						
Potassium		ND	mg/L	1.0						
Sodium		ND	mg/L	1.0						
Sample ID: LFB	4	Laboratory Fortified Blank				Run: ICP2-HE_110919B			09/19/11 12:12	
Calcium		45.1	mg/L	1.0	90	85	115			
Magnesium		44.5	mg/L	1.0	89	85	115			
Potassium		46.0	mg/L	1.0	92	85	115			
Sodium		46.6	mg/L	1.0	93	85	115			
Sample ID: H11090249-002CMS2	4	Sample Matrix Spike				Run: ICP2-HE_110919B			09/19/11 18:32	
Calcium		1290	mg/L	1.0		70	130			A
Magnesium		127	mg/L	1.0	96	70	130			
Potassium		125	mg/L	1.0	95	70	130			

Qualifiers:

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ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R74514
Sample ID: H11090249-002CMS2	4	Sample Matrix Spike				Run: ICP2-HE_110919B				09/19/11 18:32
Sodium		1770	mg/L	1.0		70	130			A
Sample ID: H11090249-002CMSD2	4	Sample Matrix Spike Duplicate				Run: ICP2-HE_110919B				09/19/11 18:36
Calcium		1310	mg/L	1.0		70	130	1.4	20	A
Magnesium		130	mg/L	1.0	98	70	130	1.8	20	
Potassium		124	mg/L	1.0	94	70	130	0.8	20	
Sodium		1760	mg/L	1.0		70	130	0.5	20	A
Sample ID: MB-13842	4	Method Blank				Run: ICP2-HE_110919B				09/20/11 01:34
Calcium		0.09	mg/L	0.008						
Magnesium		0.02	mg/L	0.003						
Potassium		0.2	mg/L	0.04						
Sodium		0.06	mg/L	0.01						

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110920A			
Sample ID: ICV STD	10	Initial Calibration Verification Standard						09/20/11 10:23		
Arsenic		0.0512	mg/L	0.0050	102	90	110			
Barium		0.0510	mg/L	0.10	102	90	110			
Cadmium		0.0265	mg/L	0.0010	106	90	110			
Copper		0.0513	mg/L	0.010	103	90	110			
Iron		0.259	mg/L	0.030	104	90	110			
Manganese		0.252	mg/L	0.010	101	90	110			
Selenium		0.0520	mg/L	0.0050	104	90	110			
Silicon		0.522	mg/L	0.10	104	90	110			
Silver		0.0248	mg/L	0.0050	99	90	110			
Strontium		0.0489	mg/L	0.10	98	90	110			
Sample ID: ICSA	10	Interference Check Sample A						09/20/11 10:27		
Arsenic		0.000188	mg/L	0.0050						
Barium		0.000164	mg/L	0.10						
Cadmium		0.000335	mg/L	0.0010						
Copper		0.000422	mg/L	0.010						
Iron		101	mg/L	0.030	101	70	130			
Manganese		0.00217	mg/L	0.010						
Selenium		0.000192	mg/L	0.0050						
Silicon		0.00414	mg/L	0.10		0	0			
Silver		0.000223	mg/L	0.0050						
Strontium		0.00572	mg/L	0.10						
Sample ID: ICSAB	10	Interference Check Sample AB						09/20/11 10:31		
Arsenic		0.0104	mg/L	0.0050	104	70	130			
Barium		0.000161	mg/L	0.10		0	0			
Cadmium		0.0104	mg/L	0.0010	104	70	130			
Copper		0.0205	mg/L	0.010	102	70	130			
Iron		101	mg/L	0.030	101	70	130			
Manganese		0.0228	mg/L	0.010	114	70	130			
Selenium		0.0104	mg/L	0.0050	104	70	130			
Silicon		0.00384	mg/L	0.10		0	0			
Silver		0.0198	mg/L	0.0050	99	70	130			
Strontium		0.00553	mg/L	0.10		0	0			
Sample ID: ICV STD	10	Initial Calibration Verification Standard						09/20/11 16:02		
Arsenic		0.0509	mg/L	0.0050	102	90	110			
Barium		0.0503	mg/L	0.10	101	90	110			
Cadmium		0.0270	mg/L	0.0010	108	90	110			
Copper		0.0525	mg/L	0.010	105	90	110			
Iron		0.267	mg/L	0.030	107	90	110			
Manganese		0.255	mg/L	0.010	102	90	110			
Selenium		0.0533	mg/L	0.0050	107	90	110			
Silicon		0.514	mg/L	0.10	103	90	110			
Silver		0.0244	mg/L	0.0050	98	90	110			

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110920A		
Sample ID: ICV STD	10	Initial Calibration Verification Standard								09/20/11 16:02
Strontium		0.0502	mg/L	0.10	100	90	110			
Sample ID: ICSA	10	Interference Check Sample A								09/20/11 16:06
Arsenic		0.000171	mg/L	0.0050						
Barium		0.000165	mg/L	0.10						
Cadmium		0.000408	mg/L	0.0010						
Copper		0.000449	mg/L	0.010						
Iron		102	mg/L	0.030	102	70	130			
Manganese		0.00212	mg/L	0.010						
Selenium		0.000383	mg/L	0.0050						
Silicon		0.00396	mg/L	0.10		0	0			
Silver		0.000131	mg/L	0.0050						
Strontium		0.00574	mg/L	0.10						
Sample ID: ICSAB	10	Interference Check Sample AB								09/20/11 16:11
Arsenic		0.0106	mg/L	0.0050	106	70	130			
Barium		0.000160	mg/L	0.10		0	0			
Cadmium		0.0103	mg/L	0.0010	103	70	130			
Copper		0.0205	mg/L	0.010	102	70	130			
Iron		103	mg/L	0.030	103	70	130			
Manganese		0.0227	mg/L	0.010	113	70	130			
Selenium		0.0104	mg/L	0.0050	104	70	130			
Silicon		0.00379	mg/L	0.10		0	0			
Silver		0.0198	mg/L	0.0050	99	70	130			
Strontium		0.00567	mg/L	0.10		0	0			
Sample ID: ICV STD	10	Initial Calibration Verification Standard								09/20/11 23:36
Arsenic		0.0514	mg/L	0.0050	103	90	110			
Barium		0.0515	mg/L	0.10	103	90	110			
Cadmium		0.0268	mg/L	0.0010	107	90	110			
Copper		0.0530	mg/L	0.010	106	90	110			
Iron		0.260	mg/L	0.030	104	90	110			
Manganese		0.251	mg/L	0.010	100	90	110			
Selenium		0.0516	mg/L	0.0050	103	90	110			
Silicon		0.504	mg/L	0.10	101	90	110			
Silver		0.0257	mg/L	0.0050	103	90	110			
Strontium		0.0497	mg/L	0.10	99	90	110			
Sample ID: ICSA	10	Interference Check Sample A								09/20/11 23:40
Arsenic		0.000173	mg/L	0.0050						
Barium		0.000176	mg/L	0.10						
Cadmium		0.000371	mg/L	0.0010						
Copper		0.000433	mg/L	0.010						
Iron		97.7	mg/L	0.030	98	70	130			
Manganese		0.00211	mg/L	0.010						

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110920A		
Sample ID: ICSA	10	Interference Check Sample A								09/20/11 23:40
Selenium		0.000294	mg/L	0.0050						
Silicon		0.00372	mg/L	0.10		0	0			
Silver		0.000176	mg/L	0.0050						
Strontium		0.00566	mg/L	0.10						
Sample ID: ICSAB	10	Interference Check Sample AB								09/20/11 23:44
Arsenic		0.0105	mg/L	0.0050	105	70	130			
Barium		0.000158	mg/L	0.10		0	0			
Cadmium		0.00998	mg/L	0.0010	100	70	130			
Copper		0.0203	mg/L	0.010	102	70	130			
Iron		98.7	mg/L	0.030	99	70	130			
Manganese		0.0226	mg/L	0.010	113	70	130			
Selenium		0.00996	mg/L	0.0050	100	70	130			
Silicon		0.00343	mg/L	0.10		0	0			
Silver		0.0206	mg/L	0.0050	103	70	130			
Strontium		0.00559	mg/L	0.10		0	0			
Method: E200.8								Batch: 13913		
Sample ID: MB-13913	10	Method Blank								Run: ICPMS204-B_110920A 09/20/11 17:14
Arsenic		7E-05	mg/L	5E-05						
Barium		ND	mg/L	9E-05						
Cadmium		ND	mg/L	2E-05						
Copper		ND	mg/L	0.0004						
Iron		0.002	mg/L	0.0006						
Manganese		6E-05	mg/L	6E-05						
Selenium		ND	mg/L	0.0002						
Silicon		0.005	mg/L	0.0008						
Silver		ND	mg/L	6E-05						
Strontium		9E-05	mg/L	4E-05						
Sample ID: LCS-13913	10	Laboratory Control Sample								Run: ICPMS204-B_110920A 09/20/11 17:18
Arsenic		0.506	mg/L	0.0050	101	85	115			
Barium		0.477	mg/L	0.10	95	85	115			
Cadmium		0.238	mg/L	0.0010	95	85	115			
Copper		0.508	mg/L	0.010	102	85	115			
Iron		2.57	mg/L	0.030	103	85	115			
Manganese		2.49	mg/L	0.010	100	85	115			
Selenium		0.518	mg/L	0.0050	104	85	115			
Silicon		4.85	mg/L	0.10	97	85	115			
Silver		0.0513	mg/L	0.0050	103	85	115			
Strontium		0.488	mg/L	0.10	98	85	115			
Sample ID: H11090249-002DMS3	10	Sample Matrix Spike								Run: ICPMS204-B_110920A 09/20/11 17:54
Arsenic		1.01	mg/L	0.0050	117	70	130			
Barium		0.574	mg/L	0.10	107	70	130			

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 13913
Sample ID: H11090249-002DMS3	10	Sample Matrix Spike				Run: ICPMS204-B_110920A			09/20/11 17:54	
Cadmium		0.261	mg/L	0.0010	104	70	130			
Copper		0.561	mg/L	0.010	102	70	130			
Iron		4.65	mg/L	0.030	111	70	130			
Manganese		2.71	mg/L	0.010	101	70	130			
Selenium		0.830	mg/L	0.0050	116	70	130			
Silicon		16.4	mg/L	0.10	121	70	130			
Silver		0.0438	mg/L	0.0050	88	70	130			
Strontium		7.93	mg/L	0.10		70	130			A
Sample ID: H11090249-002DMSD3	10	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A			09/20/11 17:58	
Arsenic		1.01	mg/L	0.0050	117	70	130	0.0	20	
Barium		0.561	mg/L	0.10	105	70	130	2.2	20	
Cadmium		0.253	mg/L	0.0010	101	70	130	3.0	20	
Copper		0.557	mg/L	0.010	101	70	130	0.7	20	
Iron		4.57	mg/L	0.030	107	70	130	1.8	20	
Manganese		2.72	mg/L	0.010	102	70	130	0.4	20	
Selenium		0.810	mg/L	0.0050	112	70	130	2.6	20	
Silicon		16.1	mg/L	0.10	113	70	130	2.2	20	
Silver		0.0471	mg/L	0.0050	94	70	130	7.2	20	
Strontium		7.92	mg/L	0.10		70	130	0.2	20	A
Method: E200.8										Batch: R74556
Sample ID: ICB	10	Method Blank				Run: ICPMS204-B_110920A			09/20/11 11:28	
Arsenic		ND	mg/L	3E-05						
Barium		ND	mg/L	3E-05						
Cadmium		ND	mg/L	1E-05						
Copper		ND	mg/L	3E-05						
Iron		0.0005	mg/L	0.0002						
Manganese		ND	mg/L	1E-05						
Selenium		ND	mg/L	4E-05						
Silicon		ND	mg/L	0.0006						
Silver		ND	mg/L	3E-05						
Strontium		ND	mg/L	7E-06						
Sample ID: LFB	10	Laboratory Fortified Blank				Run: ICPMS204-B_110920A			09/20/11 11:32	
Arsenic		0.0511	mg/L	0.0050	102	85	115			
Barium		0.0506	mg/L	0.10	101	85	115			
Cadmium		0.0482	mg/L	0.0010	96	85	115			
Copper		0.0484	mg/L	0.010	97	85	115			
Iron		4.95	mg/L	0.030	99	85	115			
Manganese		0.0498	mg/L	0.010	100	85	115			
Selenium		0.0499	mg/L	0.0050	100	85	115			
Silicon		0.211	mg/L	0.10	106	85	115			
Silver		0.0192	mg/L	0.0050	96	85	115			
Strontium		0.0527	mg/L	0.10	105	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R74556
Sample ID: LFB	10	Laboratory Fortified Blank				Run: ICPMS204-B_110920A			09/20/11 11:32	
Sample ID: H11090229-024BMS	10	Sample Matrix Spike				Run: ICPMS204-B_110920A			09/20/11 16:51	
Arsenic		0.0528	mg/L	0.0050	104	70	130			
Barium		0.0873	mg/L	0.10	97	70	130			
Cadmium		0.0470	mg/L	0.0010	94	70	130			
Copper		0.0490	mg/L	0.010	96	70	130			
Iron		4.91	mg/L	0.030	98	70	130			
Manganese		0.394	mg/L	0.010		70	130			A
Selenium		0.186	mg/L	0.0050	82	70	130			
Silicon		11.2	mg/L	0.10		70	130			A
Silver		0.0166	mg/L	0.0050	83	70	130			
Strontium		1.15	mg/L	0.10		70	130			A
Sample ID: H11090229-024BMSD	10	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A			09/20/11 16:55	
Arsenic		0.0511	mg/L	0.0050	101	70	130	3.2	20	
Barium		0.0871	mg/L	0.10	97	70	130		20	
Cadmium		0.0472	mg/L	0.0010	94	70	130	0.3	20	
Copper		0.0480	mg/L	0.010	94	70	130	2.0	20	
Iron		5.02	mg/L	0.030	100	70	130	2.2	20	
Manganese		0.393	mg/L	0.010		70	130	0.4	20	A
Selenium		0.186	mg/L	0.0050	83	70	130	0.4	20	
Silicon		11.3	mg/L	0.10		70	130	0.9	20	A
Silver		0.0177	mg/L	0.0050	89	70	130	6.3	20	
Strontium		1.15	mg/L	0.10		70	130	0.2	20	A
Sample ID: H11090254-031BMS	10	Sample Matrix Spike				Run: ICPMS204-B_110920A			09/20/11 19:18	
Arsenic		0.0567	mg/L	0.0050	98	70	130			
Barium		0.0816	mg/L	0.10	95	70	130			
Cadmium		0.0491	mg/L	0.0010	98	70	130			
Copper		0.0470	mg/L	0.010	94	70	130			
Iron		4.94	mg/L	0.030	99	70	130			
Manganese		0.0494	mg/L	0.010	99	70	130			
Selenium		0.0531	mg/L	0.0050	105	70	130			
Silicon		20.4	mg/L	0.10		70	130			A
Silver		0.0183	mg/L	0.0050	92	70	130			
Strontium		0.253	mg/L	0.10		70	130			A
Sample ID: H11090254-031BMSD	10	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A			09/20/11 19:40	
Arsenic		0.0574	mg/L	0.0050	100	70	130	1.1	20	
Barium		0.0826	mg/L	0.10	97	70	130		20	
Cadmium		0.0498	mg/L	0.0010	100	70	130	1.3	20	
Copper		0.0474	mg/L	0.010	94	70	130	0.9	20	
Iron		4.98	mg/L	0.030	100	70	130	0.9	20	
Manganese		0.0498	mg/L	0.010	99	70	130	0.8	20	
Selenium		0.0531	mg/L	0.0050	105	70	130	0.0	20	

Qualifiers:

RL - Analyte reporting limit.

NID - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R74556
Sample ID: H11090254-031BMSD 10 Sample Matrix Spike Duplicate										Run: ICPMS204-B_110920A 09/20/11 19:40
Silicon		20.7	mg/L	0.10		70	130	1.2	20	A
Silver		0.0185	mg/L	0.0050	93	70	130	1.1	20	
Strontium		0.258	mg/L	0.10		70	130	1.7	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_111010A			
Sample ID: ICV STD	9	Initial Calibration Verification Standard								10/10/11 10:36
Arsenic		0.0497	mg/L	0.0050	99	90	110			
Barium		0.0497	mg/L	0.10	99	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Copper		0.0512	mg/L	0.010	102	90	110			
Iron		0.254	mg/L	0.030	102	90	110			
Manganese		0.256	mg/L	0.010	102	90	110			
Selenium		0.0508	mg/L	0.0050	102	90	110			
Silicon		0.496	mg/L	0.10	99	90	110			
Silver		0.0245	mg/L	0.0050	98	90	110			
Sample ID: ICSA	9	Interference Check Sample A								10/10/11 10:41
Arsenic		0.000137	mg/L	0.0050						
Barium		0.000122	mg/L	0.10						
Cadmium		0.000576	mg/L	0.0010						
Copper		0.000355	mg/L	0.010						
Iron		96.6	mg/L	0.030	97	70	130			
Manganese		0.00189	mg/L	0.010						
Selenium		0.000128	mg/L	0.0050						
Silicon		0.00392	mg/L	0.10		0	0			
Silver		7.50E-05	mg/L	0.0050						
Sample ID: ICSAB	9	Interference Check Sample AB								10/10/11 10:45
Arsenic		0.0102	mg/L	0.0050	102	70	130			
Barium		0.000130	mg/L	0.10		0	0			
Cadmium		0.00982	mg/L	0.0010	98	70	130			
Copper		0.0198	mg/L	0.010	99	70	130			
Iron		97.1	mg/L	0.030	97	70	130			
Manganese		0.0213	mg/L	0.010	107	70	130			
Selenium		0.00992	mg/L	0.0050	99	70	130			
Silicon		0.00381	mg/L	0.10		0	0			
Silver		0.0192	mg/L	0.0050	96	70	130			
Sample ID: ICV STD	9	Initial Calibration Verification Standard								10/10/11 18:29
Arsenic		0.0508	mg/L	0.0050	102	90	110			
Barium		0.0509	mg/L	0.10	102	90	110			
Cadmium		0.0264	mg/L	0.0010	106	90	110			
Copper		0.0526	mg/L	0.010	105	90	110			
Iron		0.250	mg/L	0.030	100	90	110			
Manganese		0.253	mg/L	0.010	101	90	110			
Selenium		0.0494	mg/L	0.0050	99	90	110			
Silicon		0.479	mg/L	0.10	96	90	110			
Silver		0.0245	mg/L	0.0050	98	90	110			
Sample ID: ICSA	9	Interference Check Sample A								10/10/11 18:33
Arsenic		0.000150	mg/L	0.0050						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_111010A			
Sample ID: ICSA	9	Interference Check Sample A							10/10/11 18:33	
Barium		0.000126	mg/L	0.10						
Cadmium		0.000687	mg/L	0.0010						
Copper		0.000406	mg/L	0.010						
Iron		94.5	mg/L	0.030	94	70	130			
Manganese		0.00174	mg/L	0.010						
Selenium		0.000137	mg/L	0.0050						
Silicon		0.00459	mg/L	0.10		0	0			
Silver		5.00E-05	mg/L	0.0050						
Sample ID: ICSAB	9	Interference Check Sample AB							10/10/11 18:38	
Arsenic		0.0103	mg/L	0.0050	103	70	130			
Barium		8.20E-05	mg/L	0.10		0	0			
Cadmium		0.00995	mg/L	0.0010	99	70	130			
Copper		0.0202	mg/L	0.010	101	70	130			
Iron		97.7	mg/L	0.030	98	70	130			
Manganese		0.0201	mg/L	0.010	101	70	130			
Selenium		0.0101	mg/L	0.0050	101	70	130			
Silicon		0.00363	mg/L	0.10		0	0			
Silver		0.0189	mg/L	0.0050	95	70	130			
Sample ID: ICV STD	9	Initial Calibration Verification Standard							10/12/11 01:51	
Arsenic		0.0492	mg/L	0.0050	98	90	110			
Barium		0.0505	mg/L	0.10	101	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Copper		0.0510	mg/L	0.010	102	90	110			
Iron		0.251	mg/L	0.030	100	90	110			
Manganese		0.259	mg/L	0.010	104	90	110			
Selenium		0.0502	mg/L	0.0050	100	90	110			
Silicon		0.486	mg/L	0.10	97	90	110			
Silver		0.0248	mg/L	0.0050	99	90	110			
Sample ID: ICSA	9	Interference Check Sample A							10/12/11 01:55	
Arsenic		0.000129	mg/L	0.0050						
Barium		0.000220	mg/L	0.10						
Cadmium		0.000450	mg/L	0.0010						
Copper		0.000387	mg/L	0.010						
Iron		95.7	mg/L	0.030	96	70	130			
Manganese		0.00178	mg/L	0.010						
Selenium		0.000145	mg/L	0.0050						
Silicon		0.00389	mg/L	0.10		0	0			
Silver		0.000123	mg/L	0.0050						
Sample ID: ICSAB	9	Interference Check Sample AB							10/12/11 02:00	
Arsenic		0.0104	mg/L	0.0050	104	70	130			
Barium		0.000187	mg/L	0.10		0	0			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_111010A			
Sample ID: ICSAB	9	Interference Check Sample AB								10/12/11 02:00
Cadmium		0.00986	mg/L	0.0010	99	70	130			
Copper		0.0202	mg/L	0.010	101	70	130			
Iron		96.6	mg/L	0.030	97	70	130			
Manganese		0.0190	mg/L	0.010	95	70	130			
Selenium		0.0101	mg/L	0.0050	101	70	130			
Silicon		0.00368	mg/L	0.10		0	0			
Silver		0.0186	mg/L	0.0050	93	70	130			
Method: E200.8							Analytical Run: ICPMS204-B_111012A			
Sample ID: ICV STD		Initial Calibration Verification Standard								10/12/11 14:24
Strontium		0.0492	mg/L	0.10	98	90	110			
Sample ID: ICSA		Interference Check Sample A								10/12/11 14:29
Strontium		0.00542	mg/L	0.10						
Sample ID: ICSAB		Interference Check Sample AB								10/12/11 14:33
Strontium		0.00554	mg/L	0.10		0	0			
Sample ID: ICV STD		Initial Calibration Verification Standard								10/12/11 20:59
Strontium		0.0470	mg/L	0.10	94	90	110			
Sample ID: ICSA		Interference Check Sample A								10/12/11 21:03
Strontium		0.00538	mg/L	0.10						
Sample ID: ICSAB		Interference Check Sample AB								10/12/11 21:07
Strontium		0.00532	mg/L	0.10		0	0			
Method: E200.8							Batch: 13913			
Sample ID: MB-13913	9	Method Blank								Run: ICPMS204-B_111012A 10/12/11 21:32
Arsenic		ND	mg/L	5E-05						
Barium		ND	mg/L	9E-05						
Cadmium		ND	mg/L	2E-05						
Copper		ND	mg/L	0.0004						
Iron		0.003	mg/L	0.0006						
Manganese		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0002						
Silver		ND	mg/L	6E-05						
Strontium		5E-05	mg/L	4E-05						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC102-H_110921A		
Sample ID: ICV092111-12	2	Initial Calibration Verification Standard								09/21/11 15:49
Chloride		110	mg/L	1.0	110	90	110			
Sulfate		420	mg/L	1.0	105	90	110			
Sample ID: CCV092111-44	2	Continuing Calibration Verification Standard								09/21/11 23:04
Chloride		110	mg/L	1.0	109	90	110			
Sulfate		410	mg/L	1.0	103	90	110			
Sample ID: CCV092111-58	2	Continuing Calibration Verification Standard								09/22/11 02:00
Chloride		110	mg/L	1.0	109	90	110			
Sulfate		420	mg/L	1.0	104	90	110			
Method: E300.0								Batch: R74618		
Sample ID: ICB092111-13	2	Method Blank				Run: IC102-H_110921A			09/21/11 16:02	
Chloride		0.07	mg/L	0.02						
Sulfate		0.2	mg/L	0.02						
Sample ID: LFB092111-14	2	Laboratory Fortified Blank				Run: IC102-H_110921A			09/21/11 16:16	
Chloride		52	mg/L	1.0	104	90	110			
Sulfate		200	mg/L	1.1	100	90	110			
Sample ID: H11090229-026AMS	2	Sample Matrix Spike				Run: IC102-H_110921A			09/22/11 00:39	
Chloride		77	mg/L	1.0	110	90	110			
Sulfate		310	mg/L	1.1	106	90	110			
Sample ID: H11090229-026AMSD	2	Sample Matrix Spike Duplicate				Run: IC102-H_110921A			09/22/11 00:52	
Chloride		78	mg/L	1.0	112	90	110	1.3	20	S
Sulfate		310	mg/L	1.1	108	90	110	1.4	20	
Sample ID: H11090254-001AMS	2	Sample Matrix Spike				Run: IC102-H_110921A			09/22/11 03:36	
Chloride		62	mg/L	1.0	109	90	110			
Sulfate		290	mg/L	1.1	106	90	110			
Sample ID: H11090254-001AMSD	2	Sample Matrix Spike Duplicate				Run: IC102-H_110921A			09/22/11 03:49	
Chloride		62	mg/L	1.0	110	90	110	0.6	20	
Sulfate		290	mg/L	1.1	106	90	110	0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0		Analytical Run: IC102-H_110922A								
Sample ID: ICV092211-12		Initial Calibration Verification Standard								09/22/11 17:30
Sulfate		420	mg/L	1.0	105	90	110			
Sample ID: CCV092211-15		Continuing Calibration Verification Standard								09/22/11 18:11
Sulfate		410	mg/L	1.0	103	90	110			
Method: E300.0										Batch: R74653
Sample ID: ICB092211-13		Method Blank				Run: IC102-H_110922A			09/22/11 17:44	
Sulfate		ND	mg/L	0.02						
Sample ID: LFB092211-14		Laboratory Fortified Blank				Run: IC102-H_110922A			09/22/11 17:57	
Sulfate		200	mg/L	1.1	101	90	110			
Sample ID: H11090254-030AMS		Sample Matrix Spike				Run: IC102-H_110922A			09/22/11 20:13	
Sulfate		310	mg/L	1.1	107	90	110			
Sample ID: H11090254-030AMSD		Sample Matrix Spike Duplicate				Run: IC102-H_110922A			09/22/11 20:27	
Sulfate		310	mg/L	1.1	108	90	110	1.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1 Analytical Run: FIA203-HE_110922A										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Ammonia as N		1.10	mg/L	0.10	110	90	110			09/22/11 15:54
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Ammonia as N		-0.0604	mg/L	0.10		0	0			09/22/11 15:59
Method: E350.1 Batch: R74640										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Ammonia as N		15.1	mg/L	0.50	96	90	110			09/22/11 15:55
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Ammonia as N		0.963	mg/L	0.10	96	90	110			09/22/11 15:56
Sample ID: MBLK	Method Blank									
Nitrogen, Ammonia as N		ND	mg/L	0.002						09/22/11 16:00
Sample ID: H11090327-001BMS	Sample Matrix Spike									
Nitrogen, Ammonia as N		0.907	mg/L	0.10	91	80	120			09/22/11 17:28
Sample ID: H11090327-001BMSD	Sample Matrix Spike Duplicate									
Nitrogen, Ammonia as N		0.910	mg/L	0.10	91	80	120	0.4	10	09/22/11 17:29
Method: E350.1 Analytical Run: FIA203-HE_110928A										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Ammonia as N		1.09	mg/L	0.10	109	90	110			09/28/11 10:15
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Ammonia as N		-0.0531	mg/L	0.10		0	0			09/28/11 10:19
Method: E350.1 Batch: R74794										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Ammonia as N		15.1	mg/L	0.50	96	90	110			09/28/11 10:16
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Ammonia as N		0.948	mg/L	0.10	95	90	110			09/28/11 10:17
Sample ID: MBLK	Method Blank									
Nitrogen, Ammonia as N		ND	mg/L	0.002						09/28/11 10:21
Sample ID: H11090428-001AMS	Sample Matrix Spike									
Nitrogen, Ammonia as N		0.846	mg/L	0.10	85	80	120			09/28/11 10:43
Sample ID: H11090428-001AMSD	Sample Matrix Spike Duplicate									
Nitrogen, Ammonia as N		0.839	mg/L	0.10	84	80	120	0.9	10	09/28/11 10:44

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2 Analytical Run: FIA203-HE_110915A										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrite as N		1.03	mg/L	0.050	103	90	110			09/15/11 15:09
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrite as N		0.509	mg/L	0.050	102	90	110			09/15/11 15:13
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrite as N		-0.00406	mg/L	0.050		0	0			09/15/11 15:14
Method: E353.2 Batch: R74407										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Nitrite as N		1.02	mg/L	0.050	102	90	110			09/15/11 15:10
Sample ID: MBLK	Method Blank									
Nitrogen, Nitrite as N		ND	mg/L	0.0007						09/15/11 15:15
Sample ID: H11090189-001BMS	Sample Matrix Spike									
Nitrogen, Nitrite as N		1.02	mg/L	0.050	102	90	110			09/15/11 15:18
Sample ID: H11090189-001BMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrite as N		0.992	mg/L	0.050	99	90	110	2.5	20	09/15/11 15:19
Method: E353.2 Analytical Run: FIA203-HE_110919B										
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		1.06	mg/L	0.050	106	90	110			09/19/11 12:42
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.510	mg/L	0.050	102	90	110			09/19/11 12:46
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrate+Nitrite as N		-0.00549	mg/L	0.050		0	0			09/19/11 12:48
Method: E353.2 Batch: R74507										
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Nitrate+Nitrite as N		25.0	mg/L	0.20	103	90	110			09/19/11 12:43
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Nitrate+Nitrite as N		0.995	mg/L	0.050	100	90	110			09/19/11 12:45
Sample ID: MBLK	Method Blank									
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.0009						09/19/11 12:50
Sample ID: H11090255-002CMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		0.899	mg/L	0.050	90	90	110			09/19/11 13:01
Sample ID: H11090255-002CMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		0.922	mg/L	0.050	92	90	110	2.6	20	09/19/11 13:03

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/13/11

Project: Beal Mtn Mine

Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1								Analytical Run: FIA202-HE_110930A		
Sample ID: ICV	Initial Calibration Verification Standard									09/30/11 13:21
Phosphorus, Total as P		0.235	mg/L	0.010	94	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard									09/30/11 13:24
Phosphorus, Total as P		0.244	mg/L	0.010	98	90	110			
Sample ID: CCV1	Continuing Calibration Verification Standard									09/30/11 13:25
Phosphorus, Total as P		0.00617	mg/L	0.010	62	50	150			
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									09/30/11 13:26
Phosphorus, Total as P		-0.00297	mg/L	0.010		0	0			
Method: E365.1								Batch: 14076		
Sample ID: LCS-14076	Laboratory Control Sample									09/30/11 13:22
Phosphorus, Total as P		7.99	mg/L	0.025	96	90	110			
Sample ID: MB-14076	Method Blank									09/30/11 13:27
Phosphorus, Total as P		ND	mg/L	0.0009						
Sample ID: H11090394-001HMS	Sample Matrix Spike									09/30/11 13:44
Phosphorus, Total as P		0.223	mg/L	0.010	100	90	110			
Sample ID: H11090394-001HMSD	Sample Matrix Spike Duplicate									09/30/11 13:45
Phosphorus, Total as P		0.225	mg/L	0.010	100	90	110	0.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/13/11
Work Order: H11090249

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod								Analytical Run: SUB-B173149		
Sample ID: ICV-1		Initial Calibration Verification Standard								09/26/11 11:44
Cyanide, Total		0.109	mg/L	0.0050	109	90	110			
Method: Kelada mod								Batch: B_57321		
Sample ID: LCS-57321		Laboratory Control Sample								09/26/11 11:49
Cyanide, Total		0.109	mg/L	0.0050	109	90	110			
Sample ID: MB-57321		Method Blank								09/26/11 11:51
Cyanide, Total		ND	mg/L	0.002						
Sample ID: H11090277-002D		Sample Matrix Spike								09/26/11 12:04
Cyanide, Total		0.0934	mg/L	0.0050	93	90	110			
Sample ID: H11090277-002D		Sample Matrix Spike Duplicate								09/26/11 12:06
Cyanide, Total		0.0861	mg/L	0.0050	86	90	110	8.2	10	S

Qualifiers:

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

Workorder Receipt Checklist



H11090249

Login completed by: Tracy L. Lorash

Date Received: 9/15/2011

Reviewed by: BL2000\sdull

Received by: TLL

Reviewed Date: 9/30/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	5.6 °C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

Page 1 of 1

PLEASE PRINT (Provide as much information as possible.)

Company Name:

Tetra Tech

Report Mail Address:

303 Irene Street
Helena, MT 59601

Invoice Address:

Same

Project Name, PWS, Permit, Etc.

Beal Mts Mine

Contact Name:

Jim Maas

Phone/Fax:

443-5210 james.maas@tetratech.com

Invoice Contact & Phone:

Same

Sample Origin

State: MT

EPA/State Compliance:

Yes ☐ No ☐

Sampler: (Please Print)

Jim Maas

Purchase Order:

Quote/Bottle Order: 8345

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP ☐ Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: AWS V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Physiochemical
Total Recoverable
Dissolved Metals
Inorganics
Nutrients

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to
RUSH sample submittal
for charges and
scheduling - See
Instruction Page

Comments:

See Table 11

See Table 11

See Table 11

LABORATORY USE ONLY

111600249

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Analysis	Received by (print):	Date/Time:	Signature:
1 Swamp - 1	9-14-11	1720	7W	X			
2 Swamp - 3A	9-14-11	1810	7W	X			
3 Dwp - 2	9-14-11	0600	7W	X			
4							
5							
6							
7							
8							
9							
10							

Custody Record

Relinquished by (print):

Jim Maas 9-14-11 2120

Signature: Jim Maas

Received by (print):

Date/Time:

Signature:

MUST be Signed

Sample Disposal:

Return to Client:

Lab Disposal:

Received by (print):

Date/Time:

Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Leach Pad Samples 6 samples total for Table 11

TABLE 11 LEACH PAD SOLUTION ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
pH	0.1 s.u.	A4500	24 Hours
Conductivity	1	A2510B	28 Days
Total Dissolved Solids	10	A2540C	7 Days
Total Recoverable Metals⁽²⁾			
Arsenic	0.005	E200.8	6 Months
Barium	0.005	E200.8	6 Months
Cadmium	0.00008	E200.8	6 Months
Copper	0.01	E200.8	6 Months
Iron	0.03	E200.8	6 Months
Lead	0.002	E200.8	6 Months
Manganese	0.01	E200.8	6 Months
Mercury	0.0004	E245.1	6 Months
Selenium	0.005	E200.8	6 Months
Silicon	0.1	E200.8	6 Months
Silver	0.0005	E200.8	6 Months
Strontium	0.1	E200.8	6 Months
Dissolved Metals			
Calcium	1	E200.7	6 Months
Magnesium	1	E200.7	6 Months
Potassium	1	E200.7	6 Months
Sodium	1	E200.7	6 Months
Inorganics			
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Thiocyanate	0.2	A4500	14 Days
Alkalinity, total	4	A2320B	14 Days
Chloride	1	E300.0	28 Days
Sulfate	1	E300.0	28 Days
Fluoride	0.1	A4500	28 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days
Nitrite	0.05	E353.2	48 Hours
Phosphorous, Total	0.01	E365.1	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L).

2 Leach pad solution to be analyzed for total recoverable metals for comparison to groundwater chemistry.

ANALYTICAL SUMMARY REPORT

October 10, 2011

Tetra Tech Inc
303 Irene St
Helena, MT 59601

Workorder No.: H11090279

Quote ID: H634 - Beal 2011 Site Wide Monitoring

Project Name: Beal Mtn Mine

Energy Laboratories Inc Helena MT received the following 8 samples for Tetra Tech Inc on 9/16/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H11090279-001	SBB-91-29	09/15/11 17:08	09/16/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TDS Solids, Total Dissolved
H11090279-002	SBB-87-02	09/15/11 10:05	09/16/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography pH
H11090279-003	WRMW-1	09/14/11 16:40	09/16/11	Aqueous	Same As Above
H11090279-004	LPPZ-3	09/15/11 15:45	09/16/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TDS Solids, Total Dissolved
H11090279-005	SBB-94-31	09/15/11 14:45	09/16/11	Aqueous	Same As Above
H11090279-006	SBB-88-25	09/15/11 16:20	09/16/11	Aqueous	Same As Above
H11090279-007	Dup-3	09/15/11 6:00	09/16/11	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H11090279-008	Toe Drain	09/15/11 11:30 09/16/11	Aqueous	Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cyanide, Free Cyanide, Total Manual Distillation Total Cyanide Digestion Cyanide, Weak Acid Dissociable WAD Cyanide Distillation Conductivity Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Metals Digestion by EPA 200.2 Preparation for TSS Solids, Total Suspended
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The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise reported.

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-001
Client Sample ID SBB-91-29

Report Date: 10/10/11
Collection Date: 09/15/11 17:08
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	1020	mg/L		10		A2540 C	09/19/11 13:01 / cmm
INORGANICS							
Cyanide, Total	0.342	mg/L	D	0.006		Kelada mod	09/27/11 12:02 / eli-b
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	09/27/11 16:00 / eli-b
Cyanide, Weak Acid Dissociable	0.088	mg/L		0.005		D2036C	09/27/11 13:40 / eli-b
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	2.99	mg/L		0.05		E353.2	09/20/11 10:38 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:03 / reh
METALS, TOTAL RECOVERABLE							
Copper	ND	mg/L		0.001		E200.8	09/21/11 04:27 / dck
Selenium	0.007	mg/L		0.001		E200.8	09/21/11 04:27 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-002
Client Sample ID SBB-87-02

Report Date: 10/10/11
Collection Date: 09/15/11 10:05
Date Received: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	8.0	s.u.		0.1		A4500-H B	09/19/11 22:07 / zeg
Conductivity	1340	umhos/cm		1		A2510 B	09/19/11 10:57 / cmm
INORGANICS							
Alkalinity, Total as CaCO ₃	65	mg/L		4		A2320 B	09/19/11 22:07 / zeg
Sulfate	870	mg/L	D	2		E300.0	09/23/11 16:22 / zeg
Hardness as CaCO ₃	909	mg/L		1		A2340 B	09/30/11 12:34 / abb
METALS, DISSOLVED							
Arsenic	0.006	mg/L		0.005		E200.8	09/21/11 05:03 / dck
Barium	ND	mg/L		0.1		E200.8	09/21/11 05:03 / dck
Cadmium	ND	mg/L		0.001		E200.8	09/21/11 05:03 / dck
Calcium	331	mg/L		1		E200.7	09/30/11 12:34 / sld
Chromium	ND	mg/L		0.01		E200.8	09/21/11 05:03 / dck
Lead	ND	mg/L		0.01		E200.8	09/21/11 05:03 / dck
Magnesium	20	mg/L		1		E200.8	09/21/11 05:03 / dck
Mercury	ND	mg/L		0.001		E200.8	09/21/11 05:03 / dck
Selenium	ND	mg/L		0.005		E200.8	09/21/11 05:03 / dck
Silver	ND	mg/L		0.005		E200.8	09/21/11 05:03 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-003
Client Sample ID WRMW-1

Report Date: 10/10/11
Collection Date: 09/14/11 16:40
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.4	s.u.		0.1		A4500-H B	09/19/11 22:21 / zeg
Conductivity	1490	umhos/cm		1		A2510 B	09/19/11 10:57 / cmm
INORGANICS							
Alkalinity, Total as CaCO ₃	77	mg/L		4		A2320 B	09/19/11 22:21 / zeg
Sulfate	990	mg/L	D	2		E300.0	09/23/11 16:35 / zeg
Hardness as CaCO ₃	1060	mg/L		1		A2340 B	09/30/11 12:45 / abb
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.005		E200.8	09/21/11 05:07 / dck
Barium	ND	mg/L		0.1		E200.8	09/21/11 05:07 / dck
Cadmium	ND	mg/L		0.001		E200.8	09/21/11 05:07 / dck
Calcium	383	mg/L		1		E200.7	09/30/11 12:45 / sld
Chromium	ND	mg/L		0.01		E200.8	09/21/11 05:07 / dck
Lead	ND	mg/L		0.01		E200.8	09/21/11 05:07 / dck
Magnesium	24	mg/L		1		E200.8	09/21/11 05:07 / dck
Mercury	ND	mg/L		0.001		E200.8	09/21/11 05:07 / dck
Selenium	0.052	mg/L		0.005		E200.8	09/21/11 05:07 / dck
Silver	ND	mg/L		0.005		E200.8	09/21/11 05:07 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-004
Client Sample ID LPPZ-3

Report Date: 10/10/11
Collection Date: 09/15/11 15:45
Date Received: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	570	mg/L		10		A2540 C	09/19/11 13:01 / cmm
INORGANICS							
Cyanide, Total	0.038	mg/L		0.005		Kelada mod	09/27/11 11:22 / eli-b
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	09/27/11 16:00 / eli-b
Cyanide, Weak Acid Dissociable	0.005	mg/L		0.005		D2036C	09/27/11 13:41 / eli-b
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	2.21	mg/L		0.05		E353.2	09/20/11 11:21 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:04 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.008	mg/L		0.001		E200.8	09/21/11 05:12 / dck
Selenium	0.006	mg/L		0.001		E200.8	09/21/11 05:12 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-005
Client Sample ID SBB-94-31

Report Date: 10/10/11
Collection Date: 09/15/11 14:45
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	292	mg/L		10		A2540 C	09/19/11 13:02 / cmm
INORGANICS							
Cyanide, Total	0.059	mg/L		0.005		Kelada mod	09/27/11 11:24 / eli-b
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	09/27/11 16:00 / eli-b
Cyanide, Weak Acid Dissociable	0.008	mg/L		0.005		D2036C	09/27/11 13:43 / eli-b
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.71	mg/L		0.05		E353.2	09/20/11 10:30 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:05 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/21/11 05:16 / dck
Selenium	0.009	mg/L		0.001		E200.8	09/21/11 05:16 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-006
Client Sample ID SBB-88-25

Report Date: 10/10/11
Collection Date: 09/15/11 16:20
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	268	mg/L		10		A2540 C	09/19/11 13:03 / cmm
INORGANICS							
Cyanide, Total	0.052	mg/L		0.005		Kelada mod	09/27/11 11:32 / eli-b
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	09/27/11 16:00 / eli-b
Cyanide, Weak Acid Dissociable	0.019	mg/L		0.005		D2036C	09/27/11 13:45 / eli-b
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.95	mg/L		0.05		E353.2	09/20/11 10:31 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:09 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.001		E200.8	09/21/11 05:21 / dck
Selenium	0.004	mg/L		0.001		E200.8	09/21/11 05:21 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-007
Client Sample ID Dup-3

Report Date: 10/10/11
Collection Date: 09/15/11 06:00
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Dissolved TDS @ 180 C	274	mg/L		10		A2540 C	09/19/11 13:03 / cmm
INORGANICS							
Cyanide, Total	0.045	mg/L		0.005		Kelada mod	09/27/11 11:33 / eli-b
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	09/27/11 16:00 / eli-b
Cyanide, Weak Acid Dissociable	0.014	mg/L		0.005		D2036C	09/27/11 13:47 / eli-b
- The Weak Acid Dissociable (WAD) Cyanide was analyzed, and was <0.2 mg/L, the detection limit for Free Cyanide. Free Cyanide was not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.95	mg/L		0.05		E353.2	09/20/11 10:32 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:10 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.003	mg/L		0.001		E200.8	09/21/11 05:25 / dck
Selenium	0.004	mg/L		0.001		E200.8	09/21/11 05:25 / dck

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine
Lab ID: H11090279-008
Client Sample ID Toe Drain

Report Date: 10/10/11
Collection Date: 09/15/11 11:30
DateReceived: 09/16/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		5		A2540 D	09/19/11 12:41 / cmm
INORGANICS							
Cyanide, Total	ND	mg/L		0.005		Kelada mod	09/23/11 13:12 / eli-b1
Alkalinity, Total as CaCO ₃	89	mg/L		4		A2320 B	09/20/11 20:51 / cmm
Sulfate	1100	mg/L	D	5		E300.0	09/23/11 16:49 / zeg
Cyanide, Free	NA	mg/L		0.20		A4500-CN-F	09/26/11 09:30 / eli-b
Cyanide, Weak Acid Dissociable	NA	mg/L		0.005		D2036C	09/23/11 17:00 / eli-b1
- The Total Cyanide was analyzed, and was less than the reporting limit for Weak Acid Dissociable (WAD) Cyanide and Free Cyanide. WAD Cyanide and Free Cyanide were not analyzed.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.36	mg/L		0.05		E353.2	09/20/11 10:33 / reh
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	09/22/11 17:11 / reh
METALS, TOTAL RECOVERABLE							
Copper	0.004	mg/L		0.001		E200.8	09/21/11 05:29 / dck
Selenium	0.059	mg/L		0.001		E200.8	09/21/11 05:29 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R74519
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110919A			09/19/11 16:59
Alkalinity, Total as CaCO ₃	2	mg/L	0.9							
Sample ID: LCS-09152011		Laboratory Control Sample					Run: MAN-TECH_110919A			09/19/11 17:15
Alkalinity, Total as CaCO ₃	620	mg/L	4.0	103	90	110				
Sample ID: H11090278-022AMS		Sample Matrix Spike					Run: MAN-TECH_110919A			09/19/11 20:39
Alkalinity, Total as CaCO ₃	680	mg/L	4.0	97	80	120				
Sample ID: H11090278-027ADUP		Sample Duplicate					Run: MAN-TECH_110919A			09/19/11 21:17
Alkalinity, Total as CaCO ₃	140	mg/L	4.0					0.1	10	
Sample ID: H11090279-002ADUP		Sample Duplicate					Run: MAN-TECH_110919A			09/19/11 22:14
Alkalinity, Total as CaCO ₃	64	mg/L	4.0					1.0	10	
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110919A			09/19/11 22:59
Alkalinity, Total as CaCO ₃	ND	mg/L	4.0							
Sample ID: LCS-09152011		Laboratory Control Sample					Run: MAN-TECH_110919A			09/19/11 23:08
Alkalinity, Total as CaCO ₃	610	mg/L	4.0	102	90	110				
Sample ID: H11090298-001AMS		Sample Matrix Spike					Run: MAN-TECH_110919A			09/19/11 23:44
Alkalinity, Total as CaCO ₃	810	mg/L	4.0	98	80	120				
Sample ID: H11090298-004ADUP		Sample Duplicate					Run: MAN-TECH_110919A			09/20/11 00:10
Alkalinity, Total as CaCO ₃	230	mg/L	4.0					1.6	10	
Sample ID: H11090298-011ADUP		Sample Duplicate					Run: MAN-TECH_110919A			09/20/11 01:05
Alkalinity, Total as CaCO ₃	330	mg/L	4.0					0.1	10	
Method: A2320 B										Batch: R74554
Sample ID: MBLK		Method Blank					Run: MAN-TECH_110920C			09/20/11 16:54
Alkalinity, Total as CaCO ₃	2	mg/L	2							
Sample ID: LCS 09152011		Laboratory Control Sample					Run: MAN-TECH_110920C			09/20/11 17:02
Alkalinity, Total as CaCO ₃	600	mg/L	4.0	100	90	110				
Sample ID: H11090277-019AMS		Sample Matrix Spike					Run: MAN-TECH_110920C			09/20/11 20:22
Alkalinity, Total as CaCO ₃	710	mg/L	4.0	87	80	120				
Sample ID: H11090277-021ADUP		Sample Duplicate					Run: MAN-TECH_110920C			09/20/11 20:43
Alkalinity, Total as CaCO ₃	89	mg/L	4.0					0.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: COND_110919A		
Sample ID: ICV1_110919A		Initial Calibration Verification Standard								09/19/11 10:18
Conductivity		1010	umhos/cm	1.0	101	90	110			
Sample ID: CCV7_110919A		Continuing Calibration Verification Standard								09/19/11 10:45
Conductivity		1420	umhos/cm	1.0	101	90	110			
Method: A2510 B								Batch: 110919A-COND-PROBE-W		
Sample ID: H11090278-029ADUP		Sample Duplicate				Run: COND_110919A				09/19/11 10:54
Conductivity		3690	umhos/cm	1.0				0.1	10	
Sample ID: H11090282-003ADUP		Sample Duplicate				Run: COND_110919A				09/19/11 16:11
Conductivity		489	umhos/cm	1.0				1.4	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: 13911
Sample ID: MB-13911		Method Blank					Run: ACCU-124 (14410200)_110919			09/19/11 12:52
Solids, Total Dissolved TDS @ 180 C		20	mg/L	3						
Sample ID: LCS-13911		Laboratory Control Sample					Run: ACCU-124 (14410200)_110919			09/19/11 12:52
Solids, Total Dissolved TDS @ 180 C		2010	mg/L	10	100	90	110			
Sample ID: H11090278-016ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 12:53
Solids, Total Dissolved TDS @ 180 C		856	mg/L	10				5.0	5	R
Sample ID: H11090278-017AMS		Sample Matrix Spike					Run: ACCU-124 (14410200)_110919			09/19/11 12:54
Solids, Total Dissolved TDS @ 180 C		2900	mg/L	10	97	80	120			
Sample ID: H11090278-026ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 12:57
Solids, Total Dissolved TDS @ 180 C		458	mg/L	10				0.9	5	
Method: A2540 C										Batch: 13912
Sample ID: MB-13912		Method Blank					Run: ACCU-124 (14410200)_110919			09/19/11 13:02
Solids, Total Dissolved TDS @ 180 C		8	mg/L	3						
Sample ID: LCS-13912		Laboratory Control Sample					Run: ACCU-124 (14410200)_110919			09/19/11 13:02
Solids, Total Dissolved TDS @ 180 C		1970	mg/L	10	98	90	110			
Sample ID: H11090279-005ADUP		Sample Duplicate					Run: ACCU-124 (14410200)_110919			09/19/11 13:02
Solids, Total Dissolved TDS @ 180 C		290	mg/L	10				0.7	5	
Sample ID: H11090279-006AMS		Sample Matrix Spike					Run: ACCU-124 (14410200)_110919			09/19/11 13:03
Solids, Total Dissolved TDS @ 180 C		2290	mg/L	10	101	80	120			

Qualifiers:

RL - Analyte reporting limit.

R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D										Batch: 13909
Sample ID: MB-13909										
		Method Blank				Run: ACCU-124 (14410200)_110919		09/19/11 12:39		
Solids, Total Suspended TSS @ 105 C		ND	mg/L	3						
Sample ID: LCS-13909										
		Laboratory Control Sample				Run: ACCU-124 (14410200)_110919		09/19/11 12:40		
Solids, Total Suspended TSS @ 105 C		1830	mg/L	10	91	70	130			
Sample ID: H11090278-032ADUP										
		Sample Duplicate				Run: ACCU-124 (14410200)_110919		09/19/11 12:40		
Solids, Total Suspended TSS @ 105 C		38.0	mg/L	10				10	5	R
Sample ID: H11090281-008ADUP										
		Sample Duplicate				Run: ACCU-124 (14410200)_110919		09/19/11 12:43		
Solids, Total Suspended TSS @ 105 C		6.00	mg/L	10					5	

Qualifiers:

RL - Analyte reporting limit.

R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: MAN-TECH_110919A		
Sample ID: CCV1-2199	Continuing Calibration Verification Standard									09/19/11 16:46
pH		3.94	s.u.	0.10	99	97	103			
Sample ID: ICV-2100	Initial Calibration Verification Standard									09/19/11 16:55
pH		6.99	s.u.	0.10	100	98	102			
Sample ID: CCV-2145	Continuing Calibration Verification Standard									09/19/11 19:57
pH		7.08	s.u.	0.10	101	98	102			
Method: A4500-H B								Batch: R74519		
Sample ID: CCV3-2042	Continuing Calibration Verification Standard									09/19/11 16:52
pH		10.0	s.u.	0.10	101	99	101			
Sample ID: H11090279-002ADUP	Sample Duplicate									09/19/11 22:14
pH		8.00	s.u.	0.10				0.4	3	
Sample ID: H11090298-004ADUP	Sample Duplicate									09/20/11 00:10
pH		7.96	s.u.	0.10				0.3	3	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2036C										Batch: B_57353
Sample ID: H11090279-007D										
Sample Matrix Spike Duplicate						Run: SUB-B173215				09/27/11 13:51
Cyanide, Weak Acid Dissociable		0.123	mg/L	0.0050	109	80	120	1.4	10	
Sample ID: H11090279-007D										
Sample Matrix Spike						Run: SUB-B173215				09/27/11 13:49
Cyanide, Weak Acid Dissociable		0.121	mg/L	0.0050	108	80	120			
Sample ID: MB-57353										
Method Blank						Run: SUB-B173215				09/27/11 12:06
Cyanide, Weak Acid Dissociable		ND	mg/L	0.003						
Sample ID: LCS-57353										
Laboratory Control Sample						Run: SUB-B173215				09/27/11 12:04
Cyanide, Weak Acid Dissociable		0.109	mg/L	0.0050	109	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP2-HE_110930A		
Sample ID: ICV		Initial Calibration Verification Standard							09/30/11 12:01	
Calcium		38.8	mg/L	1.0	97	95	105			
Sample ID: CCV-1		Continuing Calibration Verification Standard							09/30/11 12:04	
Calcium		24.9	mg/L	1.0	100	95	105			
Sample ID: ICSA		Interference Check Sample A							09/30/11 12:15	
Calcium		462	mg/L	1.0	92	80	120			
Sample ID: ICSAB		Interference Check Sample AB							09/30/11 12:19	
Calcium		466	mg/L	1.0	93	80	120			
Method: E200.7								Batch: R74910		
Sample ID: ICB		Method Blank				Run: ICP2-HE_110930A			09/30/11 12:27	
Calcium		0.0280	mg/L	1.0						
Sample ID: LFB		Laboratory Fortified Blank				Run: ICP2-HE_110930A			09/30/11 12:31	
Calcium		45.9	mg/L	1.0	92	85	115			
Sample ID: H11090279-002BMS2		Sample Matrix Spike				Run: ICP2-HE_110930A			09/30/11 12:38	
Calcium		352	mg/L	1.0		70	130			A
Sample ID: H11090279-002BMDS2		Sample Matrix Spike Duplicate				Run: ICP2-HE_110930A			09/30/11 12:42	
Calcium		353	mg/L	1.0		70	130	0.3	20	A
Sample ID: MB-14080		Method Blank				Run: ICP2-HE_110930A			09/30/11 13:04	
Calcium		0.09	mg/L	0.008						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS204-B_110920A			
Sample ID: ICV STD	10	Initial Calibration Verification Standard							09/20/11 10:23	
Arsenic		0.0512	mg/L	0.0050	102	90	110			
Barium		0.0510	mg/L	0.10	102	90	110			
Cadmium		0.0265	mg/L	0.0010	106	90	110			
Chromium		0.0512	mg/L	0.010	102	90	110			
Copper		0.0513	mg/L	0.010	103	90	110			
Lead		0.0531	mg/L	0.010	106	90	110			
Magnesium		2.58	mg/L	0.50	103	90	110			
Mercury		0.00201	mg/L	0.0010	101	90	110			
Selenium		0.0520	mg/L	0.0050	104	90	110			
Silver		0.0248	mg/L	0.0050	99	90	110			
Sample ID: ICSA	10	Interference Check Sample A							09/20/11 10:27	
Arsenic		0.000188	mg/L	0.0050						
Barium		0.000164	mg/L	0.10						
Cadmium		0.000335	mg/L	0.0010						
Chromium		0.00215	mg/L	0.010						
Copper		0.000422	mg/L	0.010						
Lead		0.000100	mg/L	0.010						
Magnesium		41.5	mg/L	0.50	104	70	130			
Mercury		5.80E-05	mg/L	0.0010						
Selenium		0.000192	mg/L	0.0050						
Silver		0.000223	mg/L	0.0050						
Sample ID: ICSAB	10	Interference Check Sample AB							09/20/11 10:31	
Arsenic		0.0104	mg/L	0.0050	104	70	130			
Barium		0.000161	mg/L	0.10		0	0			
Cadmium		0.0104	mg/L	0.0010	104	70	130			
Chromium		0.0226	mg/L	0.010	113	70	130			
Copper		0.0205	mg/L	0.010	102	70	130			
Lead		8.70E-05	mg/L	0.010		0	0			
Magnesium		41.9	mg/L	0.50	105	70	130			
Mercury		2.90E-05	mg/L	0.0010		0	0			
Selenium		0.0104	mg/L	0.0050	104	70	130			
Silver		0.0198	mg/L	0.0050	99	70	130			
Sample ID: ICV STD	10	Initial Calibration Verification Standard							09/20/11 16:02	
Arsenic		0.0509	mg/L	0.0050	102	90	110			
Barium		0.0503	mg/L	0.10	101	90	110			
Cadmium		0.0270	mg/L	0.0010	108	90	110			
Chromium		0.0509	mg/L	0.010	102	90	110			
Copper		0.0525	mg/L	0.010	105	90	110			
Lead		0.0526	mg/L	0.010	105	90	110			
Magnesium		2.64	mg/L	0.50	105	90	110			
Mercury		0.00204	mg/L	0.0010	102	90	110			
Selenium		0.0533	mg/L	0.0050	107	90	110			

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110920A		
Sample ID: ICV STD	10	Initial Calibration Verification Standard								09/20/11 16:02
Silver		0.0244	mg/L	0.0050	98	90	110			
Sample ID: ICSA	10	Interference Check Sample A								09/20/11 16:06
Arsenic		0.000171	mg/L	0.0050						
Barium		0.000165	mg/L	0.10						
Cadmium		0.000408	mg/L	0.0010						
Chromium		0.00213	mg/L	0.010						
Copper		0.000449	mg/L	0.010						
Lead		0.000103	mg/L	0.010						
Magnesium		42.0	mg/L	0.50	105	70	130			
Mercury		5.20E-05	mg/L	0.0010						
Selenium		0.000383	mg/L	0.0050						
Silver		0.000131	mg/L	0.0050						
Sample ID: ICSAB	10	Interference Check Sample AB								09/20/11 16:11
Arsenic		0.0106	mg/L	0.0050	106	70	130			
Barium		0.000160	mg/L	0.10		0	0			
Cadmium		0.0103	mg/L	0.0010	103	70	130			
Chromium		0.0226	mg/L	0.010	113	70	130			
Copper		0.0205	mg/L	0.010	102	70	130			
Lead		8.00E-05	mg/L	0.010		0	0			
Magnesium		42.4	mg/L	0.50	106	70	130			
Mercury		2.60E-05	mg/L	0.0010		0	0			
Selenium		0.0104	mg/L	0.0050	104	70	130			
Silver		0.0198	mg/L	0.0050	99	70	130			
Sample ID: ICV STD	10	Initial Calibration Verification Standard								09/20/11 23:36
Arsenic		0.0514	mg/L	0.0050	103	90	110			
Barium		0.0515	mg/L	0.10	103	90	110			
Cadmium		0.0268	mg/L	0.0010	107	90	110			
Chromium		0.0515	mg/L	0.010	103	90	110			
Copper		0.0530	mg/L	0.010	106	90	110			
Lead		0.0522	mg/L	0.010	104	90	110			
Magnesium		2.59	mg/L	0.50	104	90	110			
Mercury		0.00203	mg/L	0.0010	101	90	110			
Selenium		0.0516	mg/L	0.0050	103	90	110			
Silver		0.0257	mg/L	0.0050	103	90	110			
Sample ID: ICSA	10	Interference Check Sample A								09/20/11 23:40
Arsenic		0.000173	mg/L	0.0050						
Barium		0.000176	mg/L	0.10						
Cadmium		0.000371	mg/L	0.0010						
Chromium		0.00214	mg/L	0.010						
Copper		0.000433	mg/L	0.010						
Lead		8.60E-05	mg/L	0.010						

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_110920A		
Sample ID: ICSA	10	Interference Check Sample A								09/20/11 23:40
Magnesium		41.1	mg/L	0.50	103	70	130			
Mercury		8.40E-05	mg/L	0.0010						
Selenium		0.000294	mg/L	0.0050						
Silver		0.000176	mg/L	0.0050						
Sample ID: ICSAB	10	Interference Check Sample AB								09/20/11 23:44
Arsenic		0.0105	mg/L	0.0050	105	70	130			
Barium		0.000158	mg/L	0.10		0	0			
Cadmium		0.00998	mg/L	0.0010	100	70	130			
Chromium		0.0222	mg/L	0.010	111	70	130			
Copper		0.0203	mg/L	0.010	102	70	130			
Lead		7.30E-05	mg/L	0.010		0	0			
Magnesium		40.5	mg/L	0.50	101	70	130			
Mercury		3.60E-05	mg/L	0.0010		0	0			
Selenium		0.00996	mg/L	0.0050	100	70	130			
Silver		0.0206	mg/L	0.0050	103	70	130			
Method: E200.8								Batch: 13913		
Sample ID: MB-13913	2	Method Blank								Run: ICPMS204-B_110920A 09/20/11 17:14
Copper		ND	mg/L	0.0004						
Selenium		ND	mg/L	0.0002						
Sample ID: LCS-13913	2	Laboratory Control Sample								Run: ICPMS204-B_110920A 09/20/11 17:18
Copper		0.508	mg/L	0.010	102	85	115			
Selenium		0.518	mg/L	0.0050	104	85	115			
Sample ID: H11090249-002DMS3	2	Sample Matrix Spike								Run: ICPMS204-B_110920A 09/20/11 17:54
Copper		0.561	mg/L	0.010	102	70	130			
Selenium		0.830	mg/L	0.0050	116	70	130			
Sample ID: H11090249-002DMSD3	2	Sample Matrix Spike Duplicate								Run: ICPMS204-B_110920A 09/20/11 17:58
Copper		0.557	mg/L	0.010	101	70	130	0.7	20	
Selenium		0.810	mg/L	0.0050	112	70	130	2.6	20	
Method: E200.8								Batch: R74556		
Sample ID: ICB	10	Method Blank								Run: ICPMS204-B_110920A 09/20/11 11:28
Arsenic		ND	mg/L	3E-05						
Barium		ND	mg/L	3E-05						
Cadmium		ND	mg/L	1E-05						
Chromium		7E-05	mg/L	6E-05						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	1.0E-05						
Magnesium		ND	mg/L	0.0007						
Mercury		ND	mg/L	9E-06						
Selenium		ND	mg/L	4E-05						
Silver		ND	mg/L	3E-05						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R74556
Sample ID: ICB	10	Method Blank				Run: ICPMS204-B_110920A				09/20/11 11:28
Sample ID: LFB	10	Laboratory Fortified Blank				Run: ICPMS204-B_110920A				09/20/11 11:32
Arsenic		0.0511	mg/L	0.0050	102	85	115			
Barium		0.0506	mg/L	0.10	101	85	115			
Cadmium		0.0482	mg/L	0.0010	96	85	115			
Chromium		0.0503	mg/L	0.010	100	85	115			
Copper		0.0484	mg/L	0.010	97	85	115			
Lead		0.0513	mg/L	0.010	103	85	115			
Magnesium		47.9	mg/L	0.50	96	85	115			
Mercury		0.00102	mg/L	0.0010	102	85	115			
Selenium		0.0499	mg/L	0.0050	100	85	115			
Silver		0.0192	mg/L	0.0050	96	85	115			
Sample ID: H11090279-001BMS	10	Sample Matrix Spike				Run: ICPMS204-B_110920A				09/21/11 04:32
Arsenic		0.0520	mg/L	0.0050	102	70	130			
Barium		0.0599	mg/L	0.10	100	70	130			
Cadmium		0.0460	mg/L	0.0010	90	70	130			
Chromium		0.0482	mg/L	0.010	97	70	130			
Copper		0.0475	mg/L	0.010	94	70	130			
Lead		0.0500	mg/L	0.010	100	70	130			
Magnesium		67.5	mg/L	1.0	89	70	130			
Mercury		0.00100	mg/L	0.0010	99	70	130			
Selenium		0.0562	mg/L	0.0050	98	70	130			
Silver		0.0174	mg/L	0.0050	87	70	130			
Sample ID: H11090279-001BMDS	10	Sample Matrix Spike Duplicate				Run: ICPMS204-B_110920A				09/21/11 04:36
Arsenic		0.0509	mg/L	0.0050	100	70	130	2.2	20	
Barium		0.0588	mg/L	0.10	98	70	130		20	
Cadmium		0.0448	mg/L	0.0010	88	70	130	2.8	20	
Chromium		0.0470	mg/L	0.010	94	70	130	2.6	20	
Copper		0.0466	mg/L	0.010	92	70	130	2.1	20	
Lead		0.0496	mg/L	0.010	99	70	130	0.7	20	
Magnesium		67.0	mg/L	1.0	88	70	130	0.7	20	
Mercury		0.000983	mg/L	0.0010	97	70	130		20	
Selenium		0.0564	mg/L	0.0050	98	70	130	0.3	20	
Silver		0.0182	mg/L	0.0050	91	70	130	4.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC101-H_110923A		
Sample ID: ICV092311-12	Initial Calibration Verification Standard									09/23/11 13:00
Sulfate		420	mg/L	1.0	104	90	110			
Sample ID: CCV092311-15	Continuing Calibration Verification Standard									09/23/11 13:41
Sulfate		410	mg/L	1.0	103	90	110			
Method: E300.0								Batch: R74678		
Sample ID: ICB092311-13	Method Blank					Run: IC101-H_110923A			09/23/11 13:14	
Sulfate		ND	mg/L	0.1						
Sample ID: LFB092311-14	Laboratory Fortified Blank					Run: IC101-H_110923A			09/23/11 13:27	
Sulfate		200	mg/L	1.1	99	90	110			
Sample ID: H11090278-031AMS	Sample Matrix Spike					Run: IC101-H_110923A			09/23/11 15:28	
Sulfate		200	mg/L	1.1	100	90	110			
Sample ID: H11090278-031AMSD	Sample Matrix Spike Duplicate					Run: IC101-H_110923A			09/23/11 15:41	
Sulfate		200	mg/L	1.1	100	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc

Report Date: 10/11/11

Project: Beal Mtn Mine

Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: E350.1								Analytical Run: FIA203-HE_110922A			
Sample ID: ICV	Initial Calibration Verification Standard										09/22/11 15:54
Nitrogen, Ammonia as N		1.10	mg/L	0.10	110	90	110				
Sample ID: ICB	Initial Calibration Blank, Instrument Blank										09/22/11 15:59
Nitrogen, Ammonia as N		-0.0604	mg/L	0.10		0	0				
Method: E350.1								Batch: R74640			
Sample ID: LCS	Laboratory Control Sample										09/22/11 15:55
Nitrogen, Ammonia as N		15.1	mg/L	0.50	96	90	110				
Sample ID: LFB	Laboratory Fortified Blank										09/22/11 15:56
Nitrogen, Ammonia as N		0.963	mg/L	0.10	96	90	110				
Sample ID: MBLK	Method Blank										09/22/11 16:00
Nitrogen, Ammonia as N		ND	mg/L	0.002							
Sample ID: H11090277-016CMS	Sample Matrix Spike										09/22/11 16:55
Nitrogen, Ammonia as N		0.904	mg/L	0.10	90	80	120				
Sample ID: H11090277-016CMSD	Sample Matrix Spike Duplicate										09/22/11 16:56
Nitrogen, Ammonia as N		0.905	mg/L	0.10	91	80	120	0.2	10		
Sample ID: H11090282-001DMS	Sample Matrix Spike										09/22/11 17:14
Nitrogen, Ammonia as N		0.829	mg/L	0.10	83	80	120				
Sample ID: H11090282-001DMSD	Sample Matrix Spike Duplicate										09/22/11 17:15
Nitrogen, Ammonia as N		0.818	mg/L	0.10	82	80	120	1.3	10		

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-HE_110920A		
Sample ID: ICV	Initial Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		1.07	mg/L	0.050	107	90	110			09/20/11 09:13
Sample ID: ICB	Initial Calibration Blank, Instrument Blank									
Nitrogen, Nitrate+Nitrite as N		-0.00621	mg/L	0.050		0	0			09/20/11 09:19
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.488	mg/L	0.050	98	90	110			09/20/11 10:18
Sample ID: CCV	Continuing Calibration Verification Standard									
Nitrogen, Nitrate+Nitrite as N		0.475	mg/L	0.050	95	90	110			09/20/11 11:14
Method: E353.2								Batch: R74531		
Sample ID: LCS	Laboratory Control Sample									
Nitrogen, Nitrate+Nitrite as N		25.1	mg/L	0.20	104	90	110	Run: FIA203-HE_110920A		09/20/11 09:14
Sample ID: LFB	Laboratory Fortified Blank									
Nitrogen, Nitrate+Nitrite as N		1.000	mg/L	0.050	100	90	110	Run: FIA203-HE_110920A		09/20/11 09:15
Sample ID: MBLK	Method Blank									
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.0009				Run: FIA203-HE_110920A		09/20/11 09:20
Sample ID: H11090277-020CMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		1.58	mg/L	0.050	88	90	110	Run: FIA203-HE_110920A		09/20/11 10:34 S
Sample ID: H11090277-020CMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		1.61	mg/L	0.050	91	90	110	79		09/20/11 10:36 20 R
Sample ID: H11090310-001AMS	Sample Matrix Spike									
Nitrogen, Nitrate+Nitrite as N		3.76	mg/L	0.050	83	90	110	Run: FIA203-HE_110920A		09/20/11 11:19 S
Sample ID: H11090310-001AMSD	Sample Matrix Spike Duplicate									
Nitrogen, Nitrate+Nitrite as N		3.73	mg/L	0.050	82	90	110	0.9		09/20/11 11:20 20 S

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tetra Tech Inc
Project: Beal Mtn Mine

Report Date: 10/11/11
Work Order: H11090279

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada mod								Analytical Run: SUB-B173081		
Sample ID: ICV		Initial Calibration Verification Standard								09/23/11 10:29
Cyanide, Total		0.106	mg/L	0.0050	106	90	110			
Method: Kelada mod								Batch: B_57252		
Sample ID: B11091726-011DMSD		Sample Matrix Spike Duplicate								09/23/11 12:53
Cyanide, Total		0.106	mg/L	0.0050	106	90	110	6.0	10	
Sample ID: LFB		Laboratory Fortified Blank								09/23/11 10:32
Cyanide, Total		0.100	mg/L	0.0050	100	90	110			
Sample ID: B11091726-011DMS		Sample Matrix Spike								09/23/11 12:51
Cyanide, Total		0.113	mg/L	0.0050	113	90	110			S
Sample ID: MB		Method Blank								09/23/11 10:34
Cyanide, Total		ND	mg/L	0.002						
Sample ID: B11091720-006FMS		Sample Matrix Spike								09/23/11 12:07
Cyanide, Total		0.0811	mg/L	0.0050	81	90	110			S
Sample ID: B11091720-006FMSD		Sample Matrix Spike Duplicate								09/23/11 12:10
Cyanide, Total		0.0813	mg/L	0.0050	81	90	110	0.2	10	S
Sample ID: B11091817-001DMS		Sample Matrix Spike								09/23/11 13:34
Cyanide, Total		0.101	mg/L	0.0050	96	90	110			
Sample ID: B11091817-001DMSD		Sample Matrix Spike Duplicate								09/23/11 13:36
Cyanide, Total		0.102	mg/L	0.0050	97	90	110	1.6	10	
Method: Kelada mod								Analytical Run: SUB-B173215		
Sample ID: ICV-1		Initial Calibration Verification Standard								09/27/11 11:06
Cyanide, Total		0.104	mg/L	0.0050	104	90	110			
Method: Kelada mod								Batch: B_57352		
Sample ID: H11090279-005D		Sample Matrix Spike								09/27/11 11:26
Cyanide, Total		0.139	mg/L	0.0050	80	90	110			S
Sample ID: H11090279-005D		Sample Matrix Spike Duplicate								09/27/11 11:28
Cyanide, Total		0.151	mg/L	0.0050	91	90	110	7.9	10	
Sample ID: MB-57352		Method Blank								09/27/11 11:15
Cyanide, Total		0.002	mg/L	0.002						
Sample ID: LCS-57352		Laboratory Control Sample								09/27/11 11:11
Cyanide, Total		0.108	mg/L	0.0050	106	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist



H11090279

Login completed by: Tracy L. Lorash

Date Received: 9/16/2011

Reviewed by: BL2000\sdull

Received by: elm

Reviewed Date: 9/27/2011

Carrier Hand Del
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	3.4 °C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

Page 1 of 1

PLEASE PRINT (Provide as much information as possible.)

Company Name:

Tetra Tech

Report Mail Address:

303 Irvine Street
Bellevue MT 59601

Invoice Address:

Same

Project Name, PWS, Permit, Etc.

Beal Mtn Mine

Contact Name:

Jim Maus

Phone/Fax:

jmaus@tetra-tech.com

Email:

Same

Sample Origin

MT

EPA/State Compliance:

Yes ☐ No ☐

Sampler: (Please Print)

Jim Maus

Quote/Bottle Order:

8345

Page 27 of 30

Special Report/Formats:

☐ DW
☐ POTW/MWTP
☐ State: _____
☐ Other: _____
☐ EDD/EDT (Electronic Data)
Format: _____
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Physicochemical
Total Recoverable Metals
Total Dissolved Metals
Inorganics
Nutrients

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments:

Shipped by: HAWO
Cooler ID#: Y
Receipt Temp: 3.4 °C
On Ice: Y
Custody Seal: Y
On Bottle: Y
On Cooler: Y
Intact: Y
Signature: Y
Match: N

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED	Standard Turnaround (TAT)	Comments:	LABORATORY USE ONLY
1 SBB-91-29	9-15-11	1708	4W	X	X	see Table 7	H1090879
2 SBB-87-02	9-15-11	1005	2W	X	X	see Table 9	
3 WR MW-1	9-14-11	1640	2W	X	X	see Table 9	
4 LPPZ-3	9-15-11	1545	4W	X	X	see Table 7	
5 SBB-94-31	9-15-11	1445	4W	X	X	Table 7	
6 SBB-88-25	9-15-11	1620	4W	X	X	Table 7	
7 Dup-3	9-15-11	0600	4W	X	X	Table 7	
8 Tce Drain	9-15-11	1130	4W	X	X	Table 4	
9							
10							

Custody Record

Requisitioned by (print):
Requisitioned by (print):

Date/Time: 9/16/11 11:25
Date/Time:

Signature: [Signature]
Signature:

Received by (print):
Received by (print):

Date/Time:
Date/Time:

Signature:
Signature:

MUST be Signed

Sample Disposal:

Return to Client:

Lab Disposal:

Received by Laboratory:

Date/Time:

Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Leach Pad Area Groundwater 8 samples X 2 events for Table 7

TABLE 7 LEACH PAD AREA GROUNDWATER ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
Total Dissolved Solids	10	A2540C	7 Days
Metals⁽²⁾			
Copper	0.001	E200.8	6 Months
Selenium	0.001	E200.8	6 Months
Inorganics			
Cyanide, free	0.2	SM4500 CN F	14 Days
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L).

2 Groundwater to be analyzed for total recoverable metals for comparison to leach pad chemistry.

Waste Rock Dump Groundwater samples 2 samples X 2 events for Table 9

TABLE 9 WASTE ROCK DUMP GROUNDWATER ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L) ⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
pH	0.1	A45400	24 hours
Conductivity	1	A2510B	28 Days
Metals⁽²⁾			
Arsenic	0.005	E200.8	6 Months
Barium	0.1	E200.8	6 Months
Cadmium	0.001	E200.8	6 Months
Calcium	1	E200.8	6 Months
Chromium	0.01	E200.8	6 Months
Lead	0.01	E200.8	6 Months
Magnesium	1	E200.7	6 Months
Mercury	0.001	E200.8	6 Months
Selenium	0.005	E200.8	6 Months
Silver	0.005	E200.8	6 Months
Inorganics			
Total Alkalinity, total CaCO ₃	4	A2320B	14 Days
Sulfate	1	E300.0	28 Days
Hardness, CaCO ₃	1	A2340B	14 Days

- 1 MDL = Method Detection Limit in milligrams per liter (mg/L).
- 2 To be analyzed for total dissolved metals.

Beal 2011 Site Wide Monitoring Analytic Summary:

Surface Water 23 samples X 2 events For Table 4

TABLE 4 SURFACE WATER AND SPRING ANALYTICAL REQUIREMENTS			
Parameter	MDL (mg/L)⁽¹⁾	Method No.	Max. Holding Time
Physicochemical			
Total Suspended Solids	5.0	E160.2	7 Days
Alkalinity, total ³	4.0	A2320B	14 Days
Metals⁽²⁾			
Copper	0.001	E200.8	6 Months
Selenium	0.001	E200.8	6 Months
Inorganics			
Cyanide, free	0.2	SM4500 CN F	14 Days
Cyanide, total	0.005	SM4500 CN / 335.4	14 Days
Cyanide, weak acid dissociable (WAD)	0.005	SM 4500	14 Days
Nutrients			
Ammonia (low level)	0.1	SM4500 NH3	28 Days
Nitrogen, Nitrate+Nitrite as N	0.05	E353.2	28 Days
Sulfate ³	1.0	E300.0	28 Days

1 MDL = Method Detection Limit in milligrams per liter (mg/L)

2 Surface water and spring parameters will be analyzed for total recoverable metals.

3 Alkalinity and Sulfate to be analyzed only at locations SPR-5, SPR-10A, Toe Drain, and MB-Drain.